THE ARCHITECT & BUILDING NEWS

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- NEWS OF THE BUILDING INDUSTRY

SEPTEMBER 29, 1950 · VOL 198 · NO 4267 · ONE SHILLING WEEKLY

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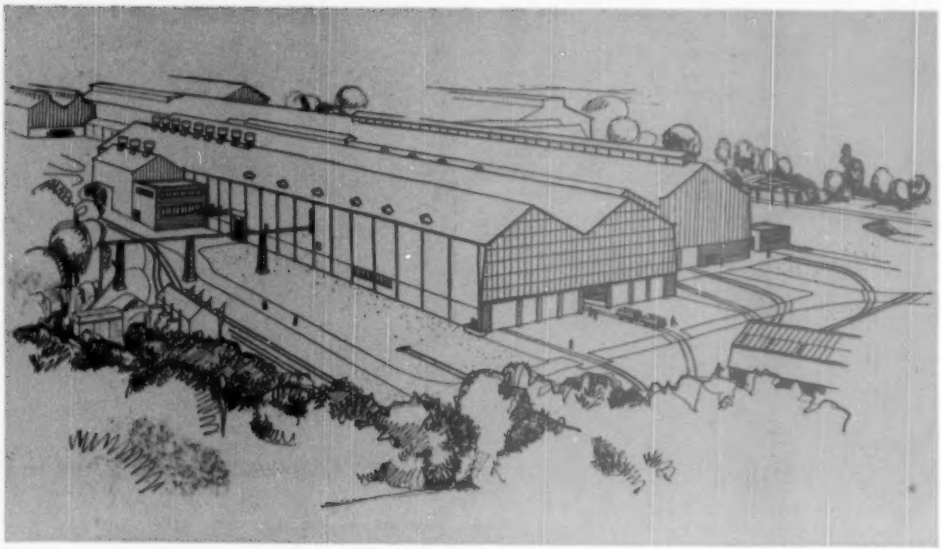

The new continuous strip mill at Rogerstone, with hot and cold rolling lines, increases Britain's capacity for aluminium sheet production by more than one-third, and challenges comparison with any aluminium-producing unit in the world.

The building in which it is housed is entirely sheathed in Noral corrugated sheet with aluminium foil insulation and demonstrates many other uses of Noral alloys in building. It is itself an illustration of the significance of this new mill to architects.

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MARLITH

used as permanent shuttering
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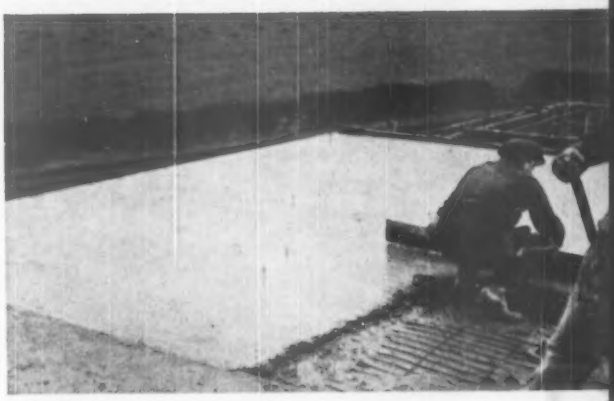

THE SHUTTERING for this flat in-situ reinforced concrete roof consisted of 2-inch MARLITH laid in temporary 2" x 2" x 3/16" steel tees supported by tubular steel scaffolding. The concrete was poured and the reinforcement applied in the normal way. When the concrete was set, the temporary steel tees and scaffolding were removed, leaving the underside of the MARLITH ready for plastering.

The drawing on right shows a similar construction in which timber props were used in place of tubular scaffolding, in conjunction with soffite boards and 1" thick MARLITH filling pieces.

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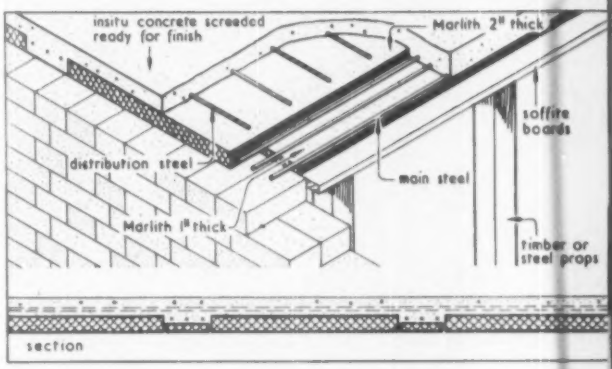

MARLITH

Wood Wool Building Slabs

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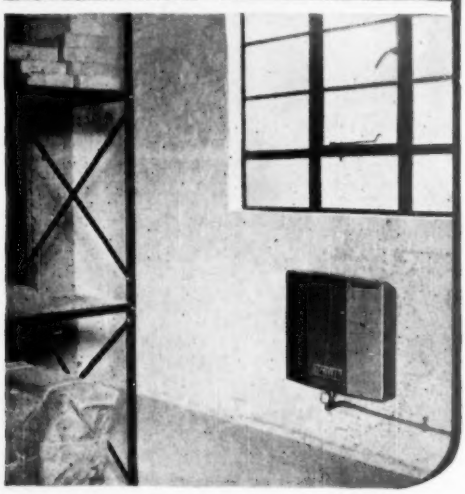
THE PHOTOGRAPHS were taken at Whitby Junior and Infants School, and show: *below*, MARLITH slabs being placed in position in the temporary steel tees; *above*, concrete being levelled.
ARCHITECTS: John Keppie & Henderson & J. L. Gleave, Chartered Architects, 196 West Regent Street, Glasgow C2
CONTRACTORS: Messrs. Jaram & Son, 20A Gladstone Street, Scarborough.
AUTHORITY: North Riding Education Committee, Northallerton



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Details of the contract carried out at the Indian Museum, Calcutta, are contained in a special folder (No. 788) available on request. Architects and Engineers are also invited to write for Catalogue No. 326, "Standard Specifications for Ruberoid Roofs."

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CRC 5

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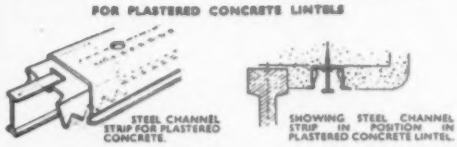

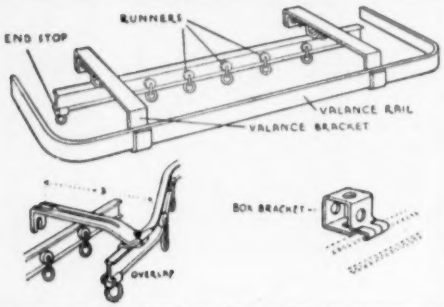

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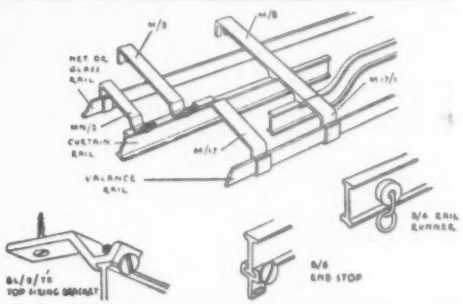

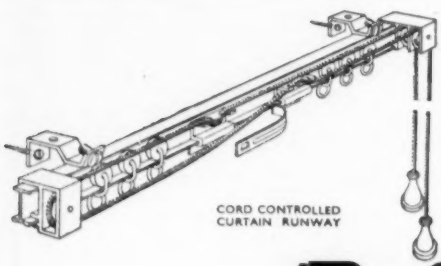

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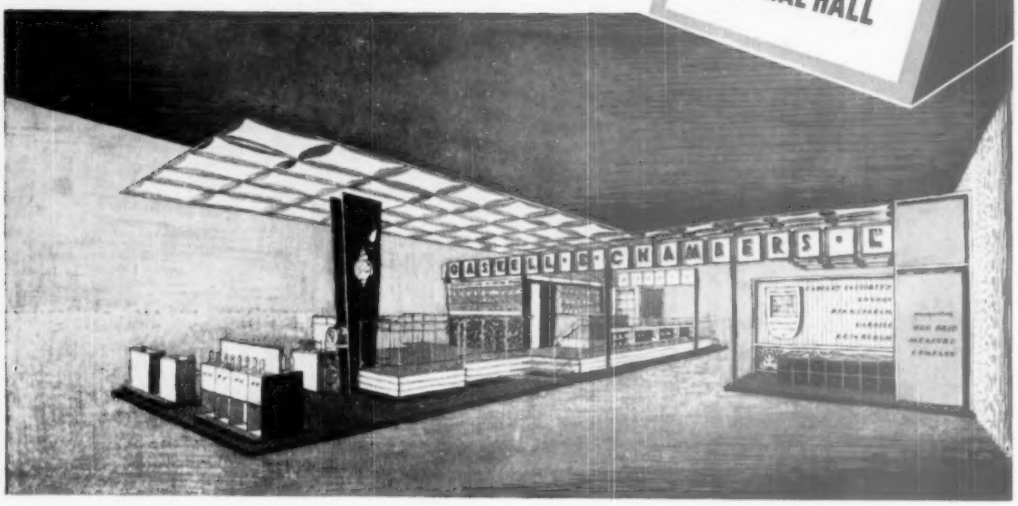
October 2nd - 6th, 1950
Olympia

STAND 2
ROW F and G
NATIONAL HALL



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THE ARCHITECT & BUILDING NEWS

September 29, 1950.

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ADVISORY PANELS

THE Council for the Preservation of Rural England have put out a brochure in support of the Advisory Panel System. It is primarily addressed to the planning authorities of the country in the hope, of course, that all these authorities will be persuaded to adopt the system.

It is a system that has had a long time to mature and has had varied experience of success and failure, praise and indifference. In fact, the first advisory panel was set up in 1928 and the idea received considerable encouragement from the so-called "amenity clauses" of the 1932 Town and Country Planning Act. Now, however, the matter of the external appearance of buildings—the control of elevations—is thrown squarely on the Local Planning Authorities within the 1947 Act.

It is here that the C.P.R.E. consider the authorities should have assistance in determining what is reasonably good appearance and what materials can be permitted to assist three-dimensional planning. It should, however, be noted that the 1947 Act does not make it obligatory to set up panels. It also follows that panels cannot come into existence except at the request of the authorities. To meet this situation, the C.P.R.E., in consultation with the R.I.B.A. and the I.O.B., have revised their previous system; it is now to take the form of two alternative types of panels (which, if any is chosen, rests with the Local Planning Authorities). One to be composed of architects only and the other of architects with other professional, technical and lay members. At present there are twenty-two panels operating with Planning Authorities; in other words about one-sixth of the country is, at present, assisted by this system.

It would seem to us that the basic criticism that can be levelled at this system is that it is arbitrary. The 1947 Act is an all-over affair; whatever else it may be called, there is no doubt that, fundamentally and ultimately, it is national planning. It would seem, therefore, that there should be some uniformity in all its methods and procedures.

As it is, decisions as to external appearance are left in the hands of (a) Local Planning Authorities only, advised by their appointed officials; (b) the same, advised by a mixed advisory panel; (c) the same, advised by a panel of professional architects; (d) the same, advised by voluntary panels of type (b) or (c); and (e) the same, advised by paid panels of type (b) or (c). With all, of course, developers have a right to appeal to the Minister.

The question of whether panels should be paid for services, paid expenses only, or act voluntarily, is a vexed one. There are all types in the list of twenty-two at present acting. A voluntary panel is, it may be said by some, likely to be better respected by developers, because its members have no (at any rate, financial) axes to grind. On the other hand, if the panel is paid by the Local Planning Authority it might be said by some to be hand-in-glove with the official side of planning and perhaps biased in one direction or another. This is undoubtedly something that requires uniformity of procedure. If it is agreed that panels are good things and all Planning Authorities should have them, then they might better be paid by direct grants from some central source that is recognised as outside local politics or prejudices. It should be a normal administrative charge included for the work of the authorities, regularised by the Treasury and its auditors, through the Ministry of Town and Country Planning.

In the C.P.R.E. brochure details of the workings of eight panels are given; of these, three are paid for services rendered, one receives travelling expenses only, three act voluntarily, and one is unspecified. It should be noted, however, that the C.P.R.E. itself is in favour of payment for service; we must agree. After all, the advice given is expert and professional, is given as a result of training and experience, and is not that of sheer charity. There are too many developers of land and property in this country who are tasteless enough, ignorant enough, or parsimonious enough to attempt to do without professional advice and it would seem an anomaly for the architectural profession to give to such its advice free, however great the awards in heaven may be for such altruism.

There is no doubt that some sort of panel system is required for the adequate working of the appearance clauses of the Act. As we pointed out, in our leader last week, Professor Patrick Abercrombie hit a very large nail on the head when he said that the whole matter depended on competency of judgment and that this is not inherent to and cannot always be found within the limited administrations of Local Planning Authorities. It is essential that local panels, however, must be composed of members who know about local problems of tradition, of form, materials, colour, planting and so forth; for though planning may now be national, the local attributes of architecture and landscape are not, and must not be lost and cannot be standardised on a national basis. In fact, of course, the Ministry of Health (in housing), the Ministry of Town and Country Planning and the Ministry of Works (in wider fields) have repeatedly attempted to emphasise this view of local quality and tradition in various publications.

While it is useful and gratifying to have written commendations by Planning Authorities of the work of the existing panels, given in the C.P.R.E. brochure, we cannot help wishing that visual evidence could also be published. For example, illustrations of drawings as first submitted and then as revised after consultations with the Panel. Surely a formula, with place and personal names omitted, could be formed for doing this? It might be one of the surest methods of persuasion, even for the lay public.

Essentially, therefore, we would suggest that the value of any panel system should be enhanced by a more official and national recognition and by establishing greater uniformity throughout the country in both method and administration. Designers and developers should not have to meet and fit into varying conditions. At present there would seem to be a great danger of a fall between the two stools of private endeavour and official control. Though this is, of course, the traditional way we have of doing things—and things sometimes come out well and true in the distant end, in spite of the means we adopt.

EVENTS AND COMMENTS

BACK TO WORK

I RETURNED to work to find that owing to the printing dispute I was not so far behind with my reading as I might have been. Other major items of interest were Mr. Churchill's and Mr. Attlee's exchange of unpleasantries, and Professor Gordon Brown's departure for Hong Kong.

Committees had, fortunately, not yet started to meet so that it was a comparatively calm week in which "did you have a good holiday?" was badly overworked. Most of the schools are now back at work and most of the students are undoubtedly complaining of the stupidity of the programmes as they shake off their vacation-gained foreign accents. I have only heard reports of two of the Summer schools. The C.I.A.M. school at Venice fell through largely I think because insufficient time was allowed to advertise it. The Bath Academy of Art—A.A. School at Corsham Court—was more successful and resulted in the construction of some shapes and the composition of some witty verses unsuitable for publication here.

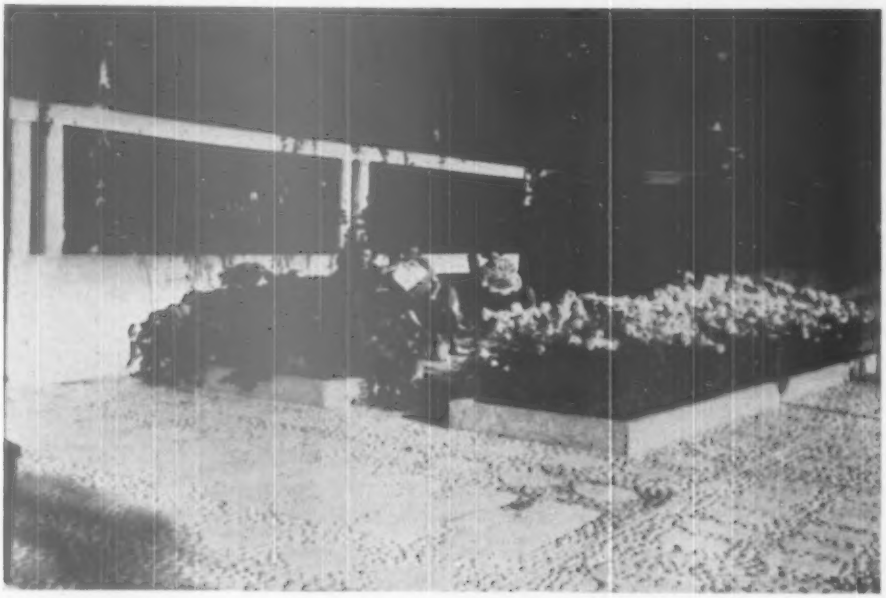
UP THE GARDEN PATH

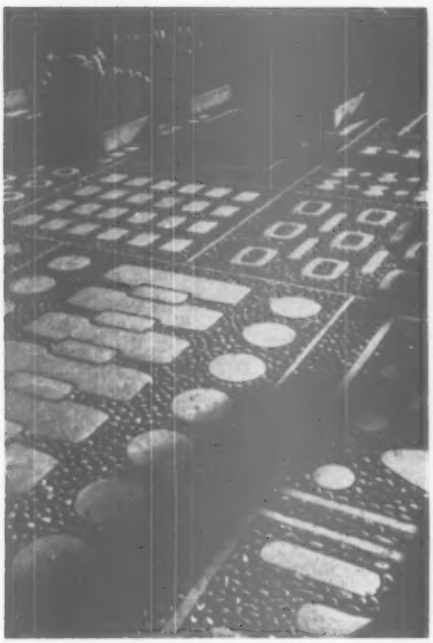
MY photographs this week were taken by a Regent Street Poly student, Geoffrey Wye, who was awarded a prize given by the Worshipful Company of Carpenters and used the money to tour Denmark and Sweden. Three of the photographs show paving in a new formal garden being constructed in Vasaparken, Stockholm. The materials used are stone, cobbles and pebbles. The enclosure which separates the garden from the main park is concrete. I shall expect to see this excellent idea crop up in many students' layout drawings during the next twelve months.

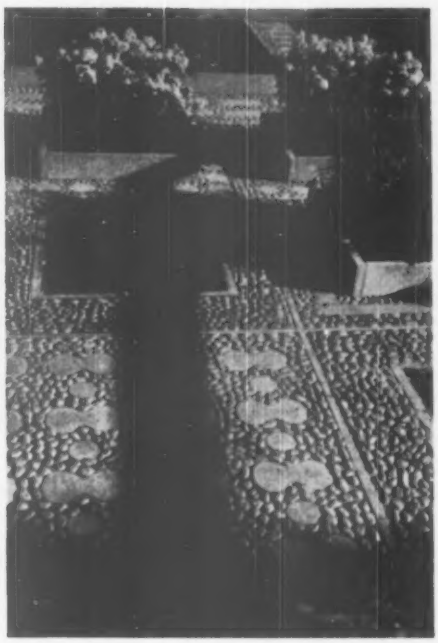
Photo: Geoffrey Wye

Painted hoarding, Copenhagen.

The picture above shows a decorated hoarding to a building site near the Magasin du Nord, Copenhagen. The game which is being played with such spirit is, I am told, table tennis. The colours are bright and the whole effect is cheerful. Since the painting is not apparently an advertisement I wonder who pays.







Photos: Geoffrey Wye

Cobble, pebble and stone paving, Vasaparken, Stockholm

TOWARDS FREE TRADE

THE Board of Trade announces that, among a great many other things, the following may now be imported from certain countries, including El Salvador and French Somaliland, without special licence, "snuff boxes of non-precious metal" and "blackhead removers."

NORTHERN ALUMINIUM PARTY

THE opening of the Northern Aluminium Companies' new rolling mills at Rogerstone was a highly organised and most expensive affair, I am told. An all first-class train from Paddington with a drawing room for Mr. Strauss, the Minister of Supply, and breakfast and dinner for everyone. Cars at the

station, a huge green and white striped marquee erected in the mill and filled with food, Bollinger and pretty waitresses. The actual opening ceremony was somewhat of an anti-climax because the speeches pushed through the customary loudspeakers were quite unintelligible. However the situation was partially retrieved by importing a shorthand typist to record the pearls, transcribe and type them and issue them to the guests before they left.

PUBLIC INFORMATION PANELS

RATHER late in the day Liverpool has realised that it will not be allowed to build on its blitzed sites in time for the Festival of Britain. The *Liverpool Daily Post* thinks that it is obvious that something must be done to improve the sites and reports a suggestion made by the leader of the City Council that some of the sites should be used for the erection of Public Information Panels. The alderman stressed that these panels should be really well designed. This is not a new idea since almost every town of any historical interest already has them. Unfortunately many of the panels have been put up by firms as frames for advertisements and the standard of design is not high. It will take a lot of information panels to hide the bombed sites of Liverpool.

ON CLEANING BUILDINGS

JUDGING by the numbers of clean faces among London buildings there must surely be a boom in the steam and spray cleaning business. Some buildings come up very well but others are quite spoilt by the operation. Often the soot and grime have contrived to give a building a character which it loses completely when polished up. The manufacturing towns of the Midlands have many such buildings. They should be sparing with their steam jets.

ONE WAY GLASS

IT came as rather a shock to be reminded by James Clark and Eaton, a firm for whom I have the greatest respect, that this is a trade paper. It is a little hard to be reprimanded so sharply for re-telling a story from America. I am told that there is no such thing as one way glass so what do I do ? I ring up the Building Centre and inquire. Their answer is that though there is nothing which can honestly be called one way glass the stripy stuff, used in pubs these last I do not know how many years, is often referred to by the ignorant as "one-way." I am advised to consult James Clark and Eaton. Further reference to the firm brings the answer that the efficacy of this type of striped mirror depends on lighting conditions, as the lady in the bathroom soon discovered.

SALISBURY CATHEDRAL SPIRE

YOU should see the exhibition on the restoration of the spire of Salisbury Cathedral which is on at the Building Centre until October 5. Perhaps not everyone envies Mr. W. A. Forsyth, the cathedral architect, for having a job which at the age of 74 has taken him five times to the top of the spire in the last twelve months. Opening the exhibition last week the Dean, the Very Rev. H. C. Robins, complimented Mr. Forsyth on his agility.

The exhibition consists of some fine photographs of the cathedral, many of which show work in progress on the spire. Drawings of the spire and samples of old and new masonry and much of the corroded ironwork installed in the last century are also on view and should provide a valuable lesson for students and others on the unsuitability of fixing stone with steel. The poor quality of Victorian repairs comes as rather a shock.

Mr. Forsyth had some interesting things to say about the spire, first of which was that he was at a loss to know how it stood up. He attributed its stability in high winds partly to a mediaeval scaffold in the spire which is suspended from the finial. Perhaps this is the earliest, though possibly unconscious example of prestressing.

A.B.S. CENTENARY BALL

TO celebrate its centenary the Architects' Benevolent Society is holding a ball at the Dorchester Hotel, Park Lane, on Wednesday, December 13 from 8.30 p.m. to 2 a.m. Tickets, which are three guineas a pair, are limited to 500 and as there are a thousand members of the R.I.B.A. alone you should make your application soon. There will be a cabaret which might include a parade of second-hand reach-me-down utility clothing modelled by the editors of and contributors to the architectural papers. Quite apart from this it will be an important architectural occasion. If it is not it may be your fault. Write to Miss Solley for your tickets now.

ARCHITECTURAL DRAUGHTSMANSHIP

IS Architectural draughtsmanship among the many things which have never been what they once were ? Mr. Curtis Green provides one of the exceptions which prove the rule. Comparatively few people have seen his work and the exhibition arranged at the R.I.B.A. from October 2 to 28 is therefore particularly welcome.

SUB-STANDARD HOUSING AT DUNDEE

DUNDEE, in a great effort to provide itself with more houses on a big scale, found a firm willing to build houses, of a sort, at £500 each. The department of Health for Scotland has asked the Dundee Council to "reconsider its proposals."

Since the houses were to have communal bathing arrangements, no coal store or ventilated larder, cooking in the living room, no linen cupboard or pram space, there would seem to be some justification for the Government's request. One of the major objections was that the proposed house offered a standard of fittings and amenities well below that provided in other houses, and "this might well lead to discontent among tenants." This seems to me to be a silly line of argument, as presumably the rents of such houses would be very much less that those of the larger ones. We constantly hear that people cannot afford the rent of the new State houses, and as no one has yet found a way of reducing building costs appreciably, the answer must be to reduce standards, but not quite to the level proposed by Dundee.

ROAD SURFACES

IT is one of the penalties of living to the west of London that one has to use the Great West Road, and travel over the experimental section used by the D.S.I.R. Roads Research Laboratory on the Colnbrook by-pass. Before the war the section was quite short, now it is over two miles long, and resembles a patchwork quilt. The latest experiment is with coloured surfaces for the Festival and for possible use on trunk routes. The combined surface is abominable as my car was not built yesterday and I think it is time that either I or the D.S.I.R. moved house.

The roadmakers of the Royal Parks are obviously determined to leave that very special corrugated section between Hyde Park Barracks and Corner to the last on their resurfacing programme.

ABNER

A block of six new houses for Old People at Carrickfergus, County Antrim to let at 6/- per week, built by the Northern Ireland Housing Trust.

NEWS OF THE WEEK

Peterlee Opening

The following statement by the Right Hon. Hugh Dalton, M.P., who was unable to be present, was read by Mr. George Lindgren, M.P., Parliamentary Secretary to the Minister of Town and Country Planning, at the opening on September 23 of a new housing site in the Peterlee New Town.

"In the early stages, following the designation of the New Town in March 1948, there were delays and disappointments, and some misunderstandings. When I became Minister of Town and Country Planning last February, I was determined to do all I could to speed the building of this New Town, to break through obstructions, and to secure better co-operation between all the interests concerned.

"I called a Conference in London attended by Lord Beveridge, the Chairman of the Corporation, Lord Hyndley, Chairman of the Coal Board, Mr. Sam Watson, as representing the mineworkers, and Mr. Sydenham, my very energetic Regional Controller. I set up a Working Party representing all these interests, and urged them to get cracking. They responded well.

"I was soon able to approve, and to obtain the approval of other Government Departments, including the Treasury, for the building of a thousand houses as quickly as possible in the North-Eastern Section of the designated area, with the necessary roads and sewers, and for an early start to be made with the Town Centre. The rest will follow in due course, but what is most urgent is to make a substantial beginning. That is now assured, and I am here to-day to lay the first foundation brick of the first new house in this North-Eastern section of the New Town. In this section there is no problem of subsidence, or of sterilising coal. That is why we are starting here."

Holborn Resolution

At a special meeting of the Holborn Borough Council on Wednesday Councillor Miss Dorothy E. Foster moved the motion: "That this Council, being anxious to preserve the traditional residential and commercial character of the Borough, views with alarm the continued encroachment of large blocks of offices for Government occupation, and expresses the hope that a halt will now be called to this type of development, and that the labour and materials thus released will be employed in the provision of houses, and that rebuilding of war damaged houses for residential occupation as well as war damaged offices for industrial and commercial use."

Another motion, to be moved by Alderman Wilfred E. Mullen, "regrets the action of the London County Council in refusing to sanction the provision of housing on small vacant sites within the borough," and calls attention to the fact that, with 1,198 names on the housing register, the Council "has been prevented by lack of co-operation on the part of the authorities concerned from rehousing any of them in new dwellings in Holborn."

Mr. F. J. Osborn leaves for U.S.A. and Canada

Mr. F. J. Osborn, Chairman of Executive of the Town and Country Planning Association and Editor of *Town and Country Planning*, the Association's Journal, left on September 21 with Mrs. Osborn for a three months' visit to the United States and Canada, at the invitation of the American Institute of Planners and the Community Planning Association of Canada.

Besides comparing notes on British and American urban and regional problems with planning authorities and organisations, Mr. Osborn will speak at a number of universities, including those of Harvard, Columbia, Cornell, Syracuse, Michigan, Oregon, San Francisco, Southern California, Georgia, Atlanta and North Carolina, and the Massachusetts and Georgia Institutes of Technology. He will also confer with the Federal Housing and Planning Administrations at Washington.

Housing Conference at Hastings

Mr. Arthur Blenkinsop, M.P., Parliamentary Secretary to the Ministry of Health, is to open this year's annual conference of the Institute of Housing to be held at Hastings on October 19 and 20.

Delegates are expected to number about 1,000, including officers and members of housing committees from most of the important local authorities in Britain. They are to receive a civic welcome from the Mayor of Hastings (Alderman J. D. Cooper, J.P.) when the conference begins at 10 a.m. on October 19.

After the civic welcome and the address by Mr. Blenkinsop, Mr. Paul S. Cadbury, of Bournville Village Trust, will speak on "Rent and the Family Budget" and the remainder of the first day will be devoted to discussion of Mr. Cadbury's paper.

On Friday, October 20, Mr. Archibald G. Jury, F.R.I.B.A., Director of Housing at Glasgow, will speak on "Housing Provision for Special Groups" and in the afternoon Mr. Thomas Alker, Town Clerk of Liverpool, on "Housing Legislation, with special reference to the Housing Act, 1949."

Outdoor Advertising

Mr. Hugh Dalton, Minister of Town and Country Planning, has confirmed an order submitted by the Blackburn Borough Council to make eight areas outside the centre of Blackburn areas of special control for outdoor advertisements. This decision follows the holding of a public inquiry in Blackburn on July 25.

Theatre Royal, Edinburgh

"Should an advisory plan be strictly adhered to or if any equally good solution can be found, should the solution be accepted?" is the question being debated by the Edinburgh Corporation Planning Committee.

The Theatre Royal was badly damaged by a fire in 1946, and repeated applications to rebuild or reinstate have been refused by the Corporation. The Secretary of State has upheld the Corporation's refusal on appeal.

The owners of the theatre commissioned Mr. Basil Spence to prepare a scheme, showing how the theatre could be reinstated, and the area so laid out so as to retain the essential features of the advisory plan.

A special meeting of the Corporation's Planning Committee is to consider the proposals as now put forward.

COMPETITION

Hebburn U.D.C. is offering prizes for the design of a Band or Concert Platform. Full particulars on page 29.

COMING EVENTS

T. & C.P.A.

- October 5, at 6.15 p.m. At the Planning Centre, 28 King Street, W.C.2. Students' Planning Group Discussion—"Detailed Planning."

L.C.C.

- October 3, at 7 p.m. At the Geffrye Museum, Kingsland Road, E.2. "The 17th Century—Taste and Revolution." Speaker: John Summerson.

EXHIBITIONS

A small exhibition of water colours and line drawings by Mr. W. Curtis Green, R.A., F.R.I.B.A., will be on view in the Members' Room at 66 Portland Place from October 2 to 29 (week-days 10-7, Saturdays 10-5).

Brewers' Exhibition. At the National and Empire Halls, Olympia. From October 2-6.

The Government of Northern Ireland's exhibit at the Chicago Trade Fair. The designer is William de Majo, M.B.E., M.S.I.A., assisted by W. H. Farrow.

OBITUARY

Councillor Arthur Charles Bunch, F.R.I.B.A., died at Leamington on September 20 at the age of 71. Mr. Bunch was County Architect of Warwickshire from 1921 until his retirement in 1945, and designed the new Warwickshire County Offices. He was Vice-President of the R.I.B.A. from 1940-1944, the first official architect to hold this office. He was architect member of the Midlands Post-War Reconstruction Group formed at Birmingham University in 1941 and became a Councillor of Leamington and Chairman of the Corporation Housing Committee. He was the architect for Leamington Art Gallery. His son, Mr. Brian Bunch, was recently appointed Borough Architect and Chief Planning Officer for Southport.

A Memorial Service was held at Holy Trinity Church, Leamington, on Tuesday.

The death also occurred, at Brighton on September 23, of Mr. Basil Ionides, F.R.I.B.A., at the age of 66.

Mr. Ionides was an authority on interior decoration and garden design, and was the author of several books on these subjects. His house at Buxted Park, Sussex, burnt down in 1940, was noted for its collection of works of art and remarkable garden ornaments.

Mr. Walter Alison, A.R.I.B.A., of Kirkcaldy has died at the age of 63.

CORRESPONDENCE

The Face of Wales

To the Editor of A. & B.N.

Sir,—I trust that you will be good enough to publish this letter, since it is only fair that I should be able to defend myself against the unjust attack made by Douglas Jones in his review of my book *The Face of Wales*.

I am bewildered by Mr. Jones's point of view. He professes to have the "greatest affection" for Wales, yet he does not admit to finding anything of interest in a book expressly designed to deal with places and subjects hitherto neglected by the topographers.

One would expect, in a periodical devoted to architecture and building, some notice of the obscure post-Reformation buildings and architects so largely described in my book. Every review I have seen, both in London and the provinces, particularly singles out this feature. Even in Wales, where some prejudice may have been expected the book had a generous press.

Your reviewer seems to be concerned only with words and phraseology—indeed he devotes some eight hundred words to this. His opinions might carry weight if he held a Chair of English Literature. My principal objection, however, is to his quotation of a few paragraphs and sentences as being typical of the entire book. Furthermore, the choice of words is the author's and not the critic's, and he is entitled to some literary licence. The economy of words suggested by your reviewer would make deadly reading, and if he is always so pedantic in his interpretation of words he must miss a lot of pleasure and fun.

Objection is made to my reference to a "shattered" castle without explaining why it was shattered. When some publisher commissions Mr. Jones to write a book (which heaven forbid) he will realise that he has space limitations and cannot explain the obvious. However, I would point out for his benefit that castles were usually shattered by gunpowder and/or inclement weather—the average schoolboy could have told him this.

If a reviewer wishes to be fatuous that is his affair, but to misguide his readers is another matter.

I am, etc.,
TUDOR EDWARDS.

Tavern Cars

To the Editor of A. & B.N.

Sir,—It is now many months since British Railways bowed to the storm of criticism levelled at its Tavern Cars and humbly agreed to withdraw them. But has any attempt been made to fulfil this concession to public opinion? Tavern Cars are still in daily use in several express trains running from Waterloo, and possibly others also, complete with their sham brickwork, painted half-timbering and other vulgarities.

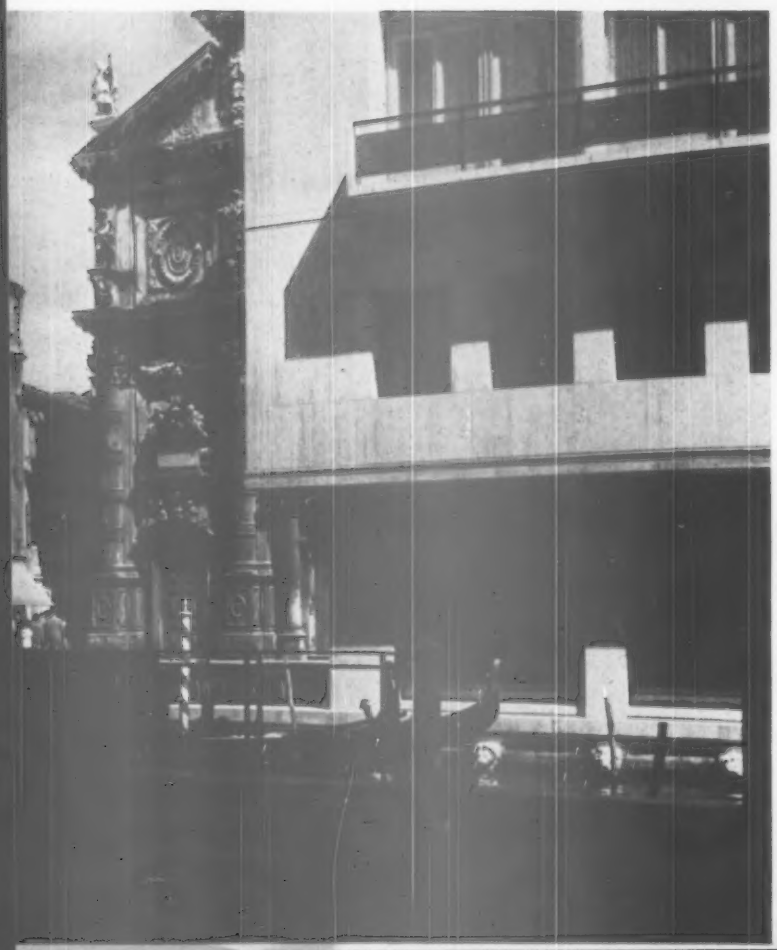
I am, etc.,
JOHN MCCANN.

eight photographs of

VENICE

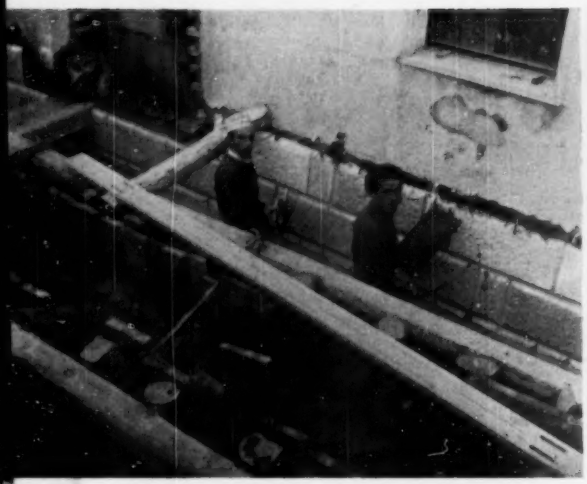
by Norman Westwood

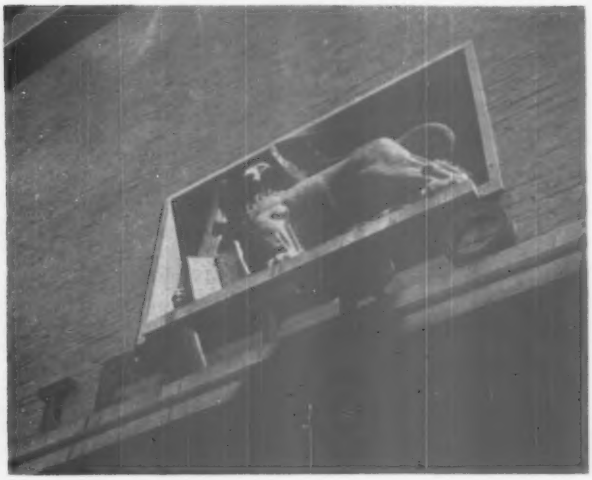
Santa Maria della Salute.



Extension to the Hotel Bauer, Grunwald.

On emerging from the shaded alleyways of Venice and suddenly coming face to face with this modern building one is somewhat taken aback. But on futher reflection it is, I think, an excellent example of the fact that good modern architecture will fit in and also act as a splendid foil to traditional work. In this particular case the contrast between the severe walls of cream coloured travertine of the hotel and the ornate rococo front of San Moise behind, is most satisfying.





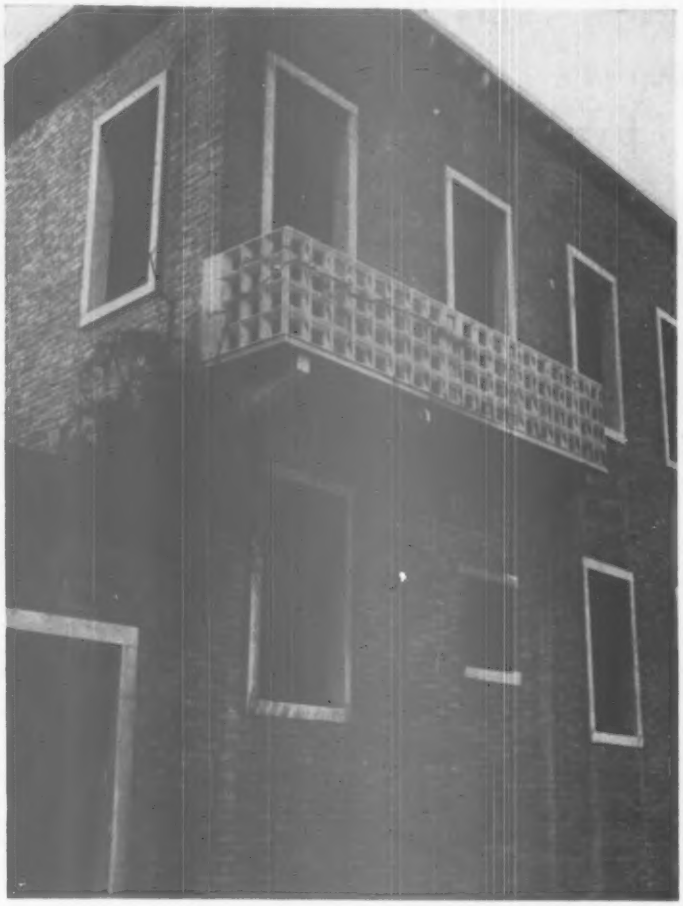
Top Left: Workmen repairing the wall to a building below the water level of the canal. The coffer dam is formed with two skins of planking with the space between filled with clay.

Top Right: Detail of a sculptural plaque and lettering on the side of the Teatro San Marco. The letters are made of thick green glass with a metal lighting box behind and when alight are very effective

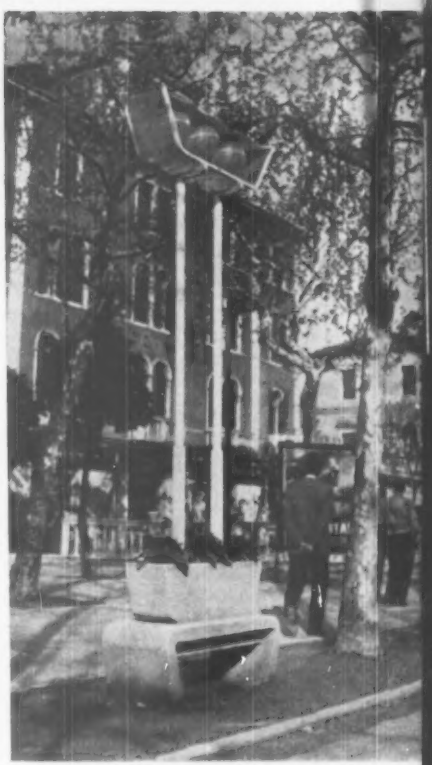
To visit Venice with a camera and refrain from photographing the Doge's Palace is almost impossible! Apart from the sheer magnificence of the scene it is interesting to note how many things that are particularly of interest to contemporary architects are embodied in this view. The open arcade at ground level with the patterned walling above; the design of the paving; the use of sculpture and lastly the relief of a square freed from all traffic.

VENICE

photographed by
NORMAN
WESTWOOD,
A.R.I.B.A.



A charming little balcony in precast concrete to a house overlooking the Salute.



Street lights at the Lido. There is something a little unhappy about the relationship of the flower box at the base and the light fitting above, but nevertheless in their setting of a tree lined avenue, the fittings looked well. The concrete base is finished with a rough Tyrolean finish; the metal standards and framing of the fittings are painted white. The globes and the underside of the fittings are made from glass rods.

ADVISORY DEVELOPMENT PLAN FOR HIGH WYCOMBE AND DISTRICT

by ANTHONY M. CHITTY, M.A., F.R.I.B.A., A.M.T.P.I.

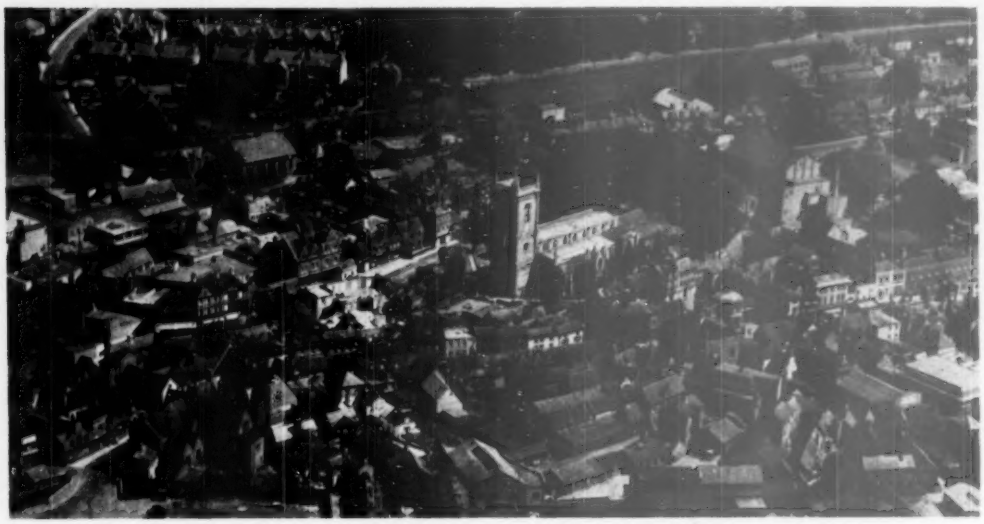


Photo: Aerofilms Ltd.

THE Advisory Development Plan has been published as a booklet, and the plans have been exhibited and discussed at High Wycombe. As long ago as March, a Brains Trust was held in the Guildhall, attended by Mr. Chitty at which members of the public were able to ask any questions. At a meeting of the Chamber of Commerce, the Mayor said "the town is getting old, some of the places in the back streets are in a shocking state. The slums of Glasgow are not so bad as some of them." The main London to Oxford road runs through the centre of the town and it has for many years been obvious that a relief road or bypass was an urgent need. This is one of the problems for which the plan offers a solution or alleviation.

It has not been possible to reproduce here the coloured maps included in the booklet, but a simple diagram of the main proposals affecting the centre of the town is given.

Mr. Chitty includes in his booklet as an appendix an extract on High Wycombe from Professor Abercrombie's Greater London Plan, 1944. This extract is printed immediately below and for the purpose of this article serves as an introduction to the summary of Mr. Chitty's proposals.

HIGH WYCOMBE

This is a very interesting old-established town lying in the valley on either side of the London-Oxford road, and in the main is an example of fairly intense urbanism. It has a charming setting in attractive rural surroundings and is within about 30 miles of London. It has, however, developed by internal expansion from the small historic ribbon valley town, based on local industries (chair-making, dependent in the first instance on the nearby beech woods, and to a lesser extent paper making) into a general industrial centre for for which it is topographically quite unsuited. The old town area is in need of a comprehensive scheme of reconstruction: much of the area consists of congested housing, antiquated workshops and small factories: something much more comprehensive than a widening of the main shopping road is required. Some rehousing in flats in the central area will be necessary.

The chair industry, in the course of its expansion to the manufacture of furniture, has attracted a wide variety of linked or subsidiary concerns, such as manufacturers of bedding, mattress springs, plywoods, polishes, feather cleaners, etc., whilst of recent years engineering, especially precision instruments and electrical work, has come to the town. A number of wholesale clothing firms have taken over small vacant furniture factories.

There is a great contrast between the old town and the modern expansion. The latter comprises an insufficiently controlled and shapeless sprawl pushing ribbon-like tentacles up the valleys and straggling over the hills, regardless of contours or skylines: if continued unchecked it bids fair to devastate a wide area of most beautiful countryside. There is very little community of interest between the old town and these newer areas, some of which are up hillsides (a considerable distance away) and, with the possible exception of Booker, none seem to have any individual compactness nor focal points around which community life might centre. Fundamentally the characteristics of the area with its valleys and hill ridges preclude indefinite expansion, except by an extravagant use of land, and by the creation of an urbanism which will lack compactness. One of the most vital sectors to safeguard is the hill ridge overlooking Marlow and Windsor, over which building should not be allowed to spread southwards. Regionally it will make for better planning to divert population and

industry to areas which are more suitable for compact town growth, such as Slough, Aylesbury and Bletchley, where new industry can be more efficiently accommodated. Wycombe's emphasis should be on reconstruction and bettering the present community rather than on expansion.

Industrially the town's future seems assured. It possesses a world-wide reputation for furniture which it is essential it should retain, but to cope with post-war demand and to face competition, production in up-to-date factories will be necessary, rather than in small backyard workshop premises. The area is very short of suitable industrial land and unless existing factories, and any available sites, are reserved for the furniture industry the latter will find itself severely handicapped owing to lack of room for expansion and up-to-date premises. The town should be placed out of bounds for new industry, and before any war-time concerns which have temporarily settled there are allowed to stay, their demands on industrial accommodation, both present and prospective, should be very carefully considered (especially if of the type liable to rapid expansion).

The furniture industry will be prosperous for many years after the war and it will not be necessary to diversify it by the introduction of any further staple industries. Should there be at some future time a prospect of this industry declining, then it would be for the local authority to make out a case for the introduction of further industries. The only possible exception to this might be the introduction of a few clothing concerns or other works employing women if it can be proved that there is a shortage of work for industrial labour. Undoubtedly Wycombe's furniture industry must face the necessity for changing over to mass production, involving a considerable financial outlay. It is possible that timber supplies will be short after the war: if this is so the manufacture of plastic or steel furniture may have to be undertaken, a process which would be facilitated by the war-time training in metalwork which a number of the furniture workers have received.

A large area of relatively inaccessible undulating land north of Newmer Common, surrounded by woods, for which industrial zoning had been tentatively considered, should certainly not be so developed, but should remain within the rural area.

Within the area contemplated for the town's growth it should be possible ultimately to accommodate decanted London population to meet the requirements of its expanding industries. But this decanting should await a period after the war whilst the town is settling down and its labour requirements become clearer.

The western end of the town is fortunate in possessing the village of West Wycombe, the greater part belonging to the National Trust, and the beautiful House and Park of West Wycombe, 300 acres of which have recently been transferred to the same body by the owner.

MR. CHITTY'S PROPOSALS IN BRIEF

The Statutory Requirement

Under the Town and Country Planning Act, 1947, the duty is laid upon the County Council of preparing development plans for the County and its towns. Such plans have to be submitted to the Minister by July 1951. Bucks County Council appointed a Consultant, Mr. Anthony M. Chitty, M.A., F.R.I.B.A., A.M.T.P.I., to make an Advisory Plan for the town of High Wycombe and to assist him in this set up a Joint Planning Sub-committee composed of members of the County Council and the Borough Council equally, and a member of the Wycombe R.D.C.

Observations by the Public and by Local Authorities

Mr. Chitty's Advisory Plan is now complete. The purpose of completing this work a year ahead of the date upon which the County Council must submit their plans to the Minister, is to enable Mr. Chitty's advisory proposals to be studied by the public and to be circulated to the various local authorities concerned (including of course High Wycombe Borough Council and Wycombe R.D.C.) for their observations. The County Council can than take note of such comment, amending Mr. Chitty's scheme or not, as they see fit, as they incorporate it within the statutory programme.

Why the Plan is Needed

A development plan of this kind must be viewed as an ultimate and long-term pattern, the parts of which come to fruition at various times. Such a plan is necessary so that major proposals, though far distant in time, may not be obstructed by urgent works required to-day or to-morrow. A plan enables the way to be kept open for such future events.

Industry

Attached to the Report is a very full summary of the industrial position in Wycombe as it was at the end of the war. Whereas before the war furniture manufacture and its allied trades predominated, now this is only 50 per cent. of all industry, the remainder being light industry such as engineering, electrical manufacture, paper making, printing and clothing manufacture. Some further diversification is needed to achieve a balance and so avoid the evil effects of seasonal fluctuation in the furniture industry and of periods of national depression. The Board of Trade will not permit any great influx of industry beyond what is required for this purpose.

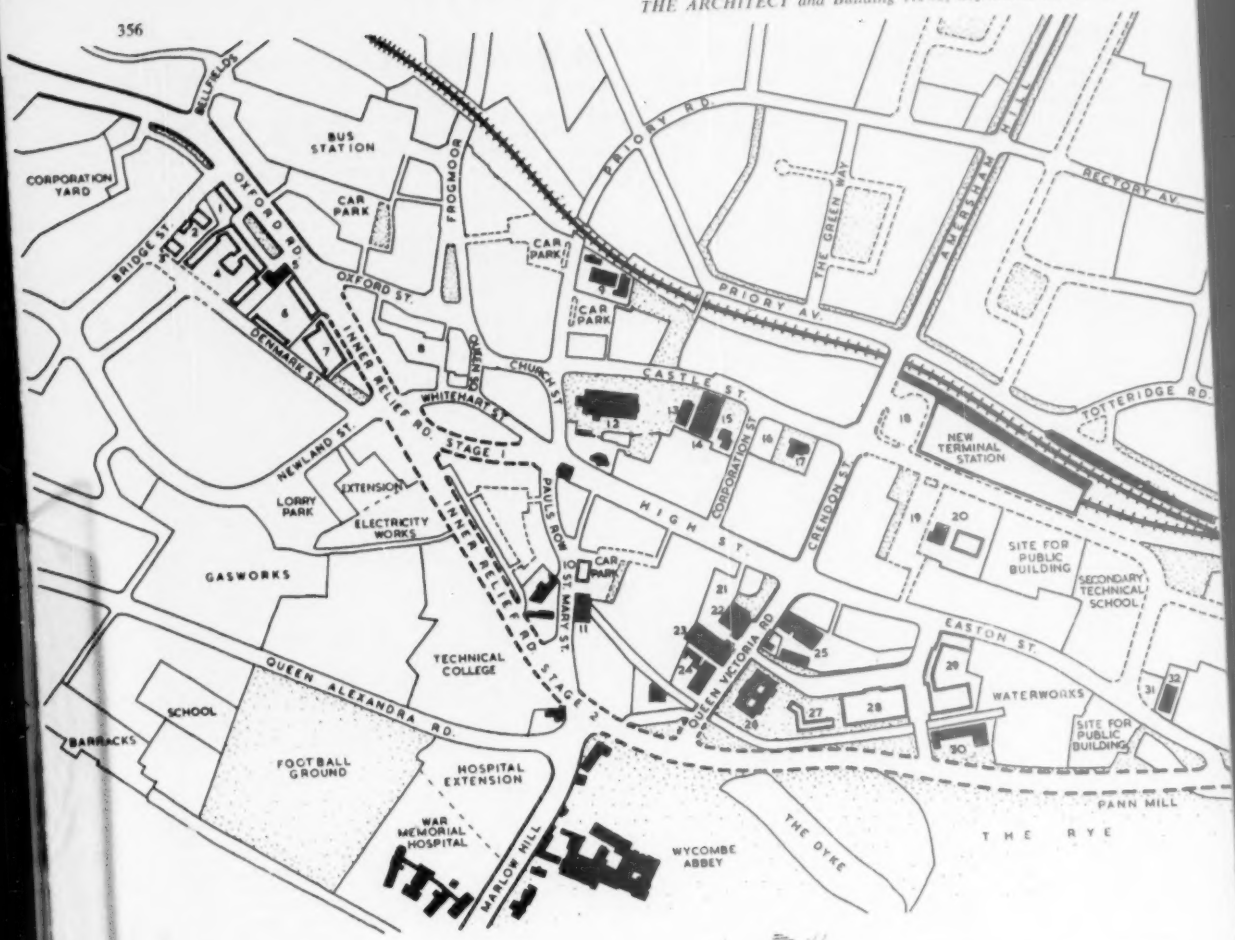
Mr. Chitty stresses that the healthy, vigorous and independent industrial life of Wycombe must be given the greatest possible elbow room and proposes that the whole of the central area of the town lying roughly between Oakridge Road on the west and Bellfields and Bridge Street on the east should eventually be given over to industry. The obsolescent housing in this district is to be gradually removed and rebuilt in new residential areas in the north-east and south-west sectors of the town, and the land released made available to industry.

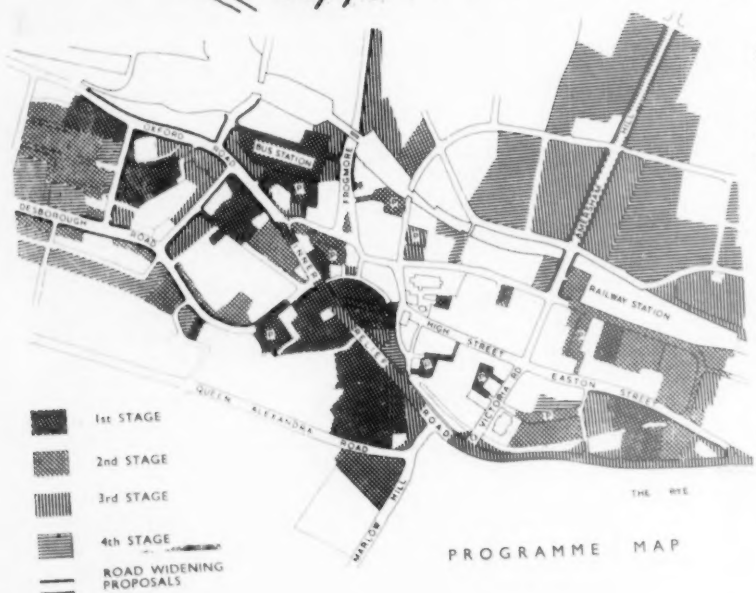
In order to achieve this, the Cressex industrial estate must be pressed on with at once to offer space to ill-housed industry in the centre, and thus allow central redevelopment.

Allotments and Agriculture

Proposals are made for some redistribution of allotments, though the total acreage is satisfactory for the present population. The cattle market is to be moved out of the central area to a larger site further west, where new buildings, better access and closer contact with the farming interests can be provided. (*Continued on p.* 358.)

A sketch by Peter Yates which includes a corner of Keene's Guildhall, 1757, the little octagonal Market House or "Shambles," 1761, ascribed to the Adam Brothers (both scheduled as ancient monuments), and in the background, the Parish Church.



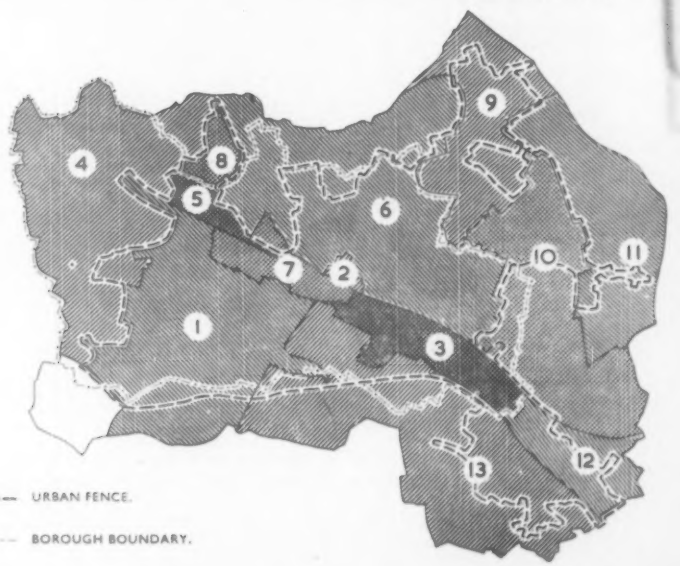


PROGRAMME MAP

Sketch plan of the Town Centre, High Wycombe, showing principal proposals:

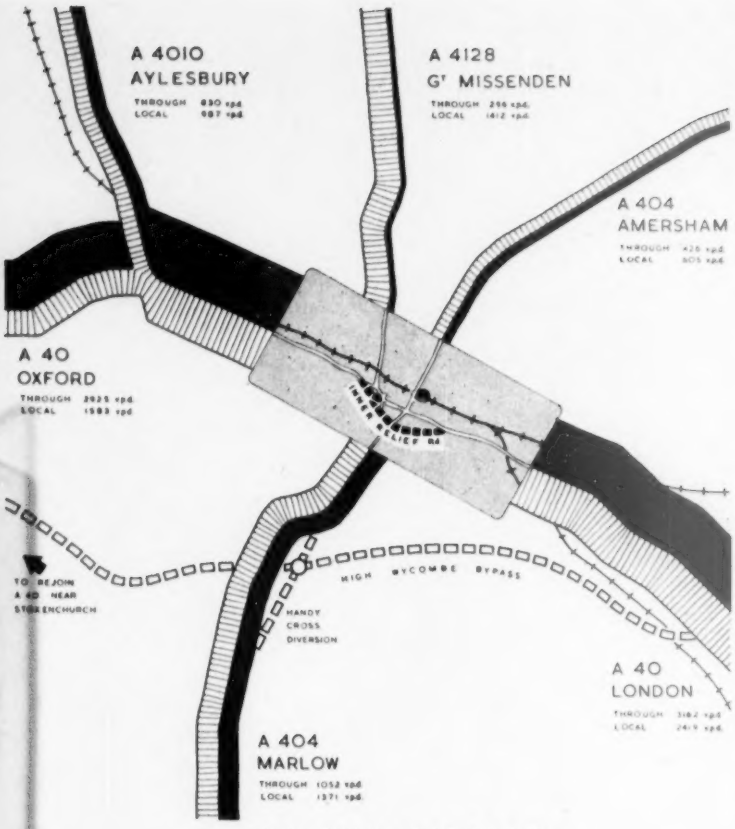
1 Proposed ambulance station. 2 Proposed chapel. 3 Proposed public-house. 4 Proposed health centre. 5 Existing chapel. 6 Proposed fire station. 7 Proposed cinema. 8 Proposed car park. 9 Existing chapel. 10 Proposed public-house. 11 Existing British Legion premises. 12 High Wycombe Parish Church. 13 Existing hall. 14 Existing cinema. 15 Existing Christian Science Church. 16 Proposed offices and shops. 17 Existing Roman Catholic Church. 18 Proposed enlarged railway station yard. 19 Proposed car park. 20 Telephone exchange and proposed extension. 21 Enlargement of car park. 22 Existing public library. 23 Existing Town Hall. 24 Existing police station. 25 Existing post office and proposed extension. 26 Existing municipal offices. 27 Proposed offices for Wycombe Rural District Council. 28 Proposed law courts. 29 Proposed new theatre and arts centre. 30 Existing clinic. 31 Proposed public-house. 32 Existing chapel.

Aerial view from the S.S.E. photo Aerofilms Ltd.



URBAN FENCE AND POPULATION MAP

1 South-west area. 2 Amersham Hill. 3 Marsh. 4 West Wycombe. 5 Plomer Hill. 6 North-east area. 7 Central and West Central areas. 8 Downley. 9 Hazlemere. 10 Tylers Green. 11. Penn. 12 Loudwater. 13 Flackwell Heath.



TRAFFIC DIAGRAM

Average number of vehicles per day using the town roads in September, 1949. Through-traffic streams are shown in black. Local traffic circulating within the town area is not shown.

The chief problem is the relief of A40, the main Oxford road, which runs through the centre of the town. The sketch shows Frogmoor, junction of A40 and A4128.

Size of Town and Housing

The present population of the borough is about 40,000 and of the area covered by the plan about 49,000. The narrowness of the valley and its steep gradients make it uneconomic to expand the population beyond about 60,000 (compared with the 49,000 above). Development will therefore be mostly filling in of gaps, with the weight of the population living in the north-east and south-west sectors of the town, where development has already started. It is not proposed to increase greatly the development in the Hazlemere, Penn, Tylers Green and Flackwell Heath areas. Higher densities with some flats are suggested for the central area between Lucas Road and the railway.

Schools and Open Spaces

The county development plan for schools has been followed as closely as possible, though some additional acreage has been allowed where new residential development is planned. Wycombe is well equipped with public parkland but somewhat deficient in playing fields, and provision is made accordingly.

Road Proposals

The main problem in Wycombe is to relieve the town of as much as possible of the main Oxford Road through traffic. This is to be achieved by an extensive by-pass planned by the Ministry of Transport to run from "Mother Redcap" across the valley, along the top of the ridge to the south of the town to rejoin A40 west of Stokenchurch. So large and difficult a project must take time to build and meanwhile Mr. Chitty suggests as an immediate step the construction of an inner relief road from Temple Street via Newlands, the foot of Marlow Hill and the new clinic to rejoin the main road at Pann Mill.

Central Area Proposals

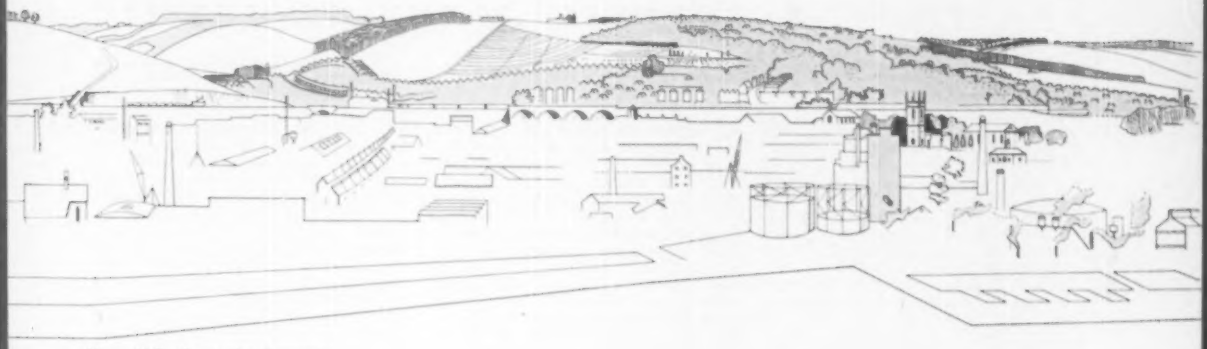
These include sites for new law courts, fire station, ambulance centre, post office extensions, theatre and arts society buildings and a large new bus station in the Dovecote Lane area which will alleviate queuing for buses in Oxford Street and Frogmoor.

British Railways intend to regroup all goods facilities at Bellfield, and when the railway station is rebuilt a widening of the Amersham Hill bridge is proposed and a spacious station forecourt with room for buses to turn and proper taxi ranks.

Many proposals are made for well distributed central car parks, giving a total accommodation for 800 cars.

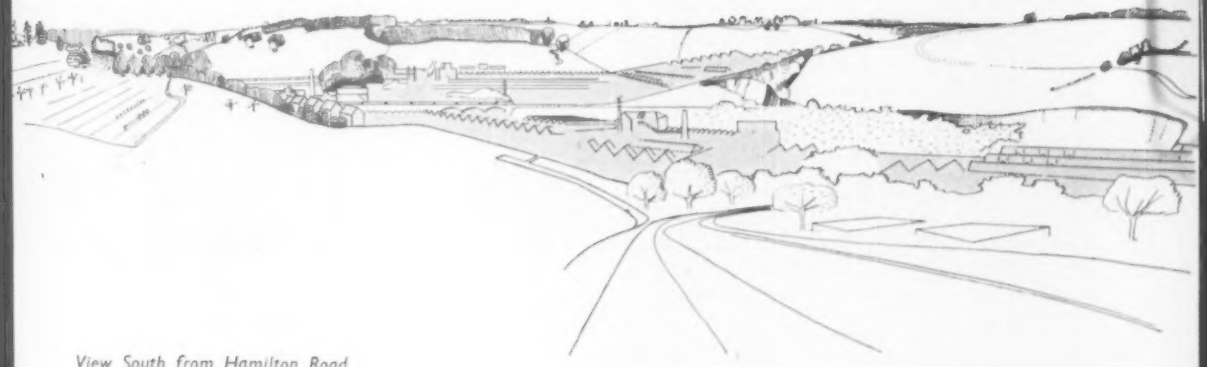
Development Programme

Mr. Chitty stresses that a plan of this kind, prepared under the 1947 Act, is to be judged by its realism and the practical possibilities of its execution. For this reason the plan has no startling or "clean-sweep" proposals, but it is an attempt to find out Wycombe's requirements and assist in their gradual fulfilment. A map is included showing four categories of priority for the works proposed. (*See page* 356.)



View N.E. from the Barracks

View N.W. from the Barracks



View South from Hamilton Road

reproduced from the
HIGH WYCOMBE AND DISTRICT ADVISORY PLAN

THE TOWN & COUNTRY PLANNING SUMMER SCHOOL, 1950, HELD AT NOTTINGHAM UNIVERSITY

AT the end of most planners' 1950 calendars will be found a note to the effect that the 1951 Summer School is to be held at Oxford and the dates with a reminder to carry the information forward to the new calendar when bought. These summer schools are now annual events which for planners must not be missed.

It is not a conference, it is a School. The scholars are there to learn, not as many who have never attended still seem to suppose, to enjoy the beauty and peace of the particular university city in which it may be held. Anyone who attends the four lectures or discussions which take place each day for five days will verify this statement.

When the school was inaugurated in the early 'thirties it was agreed that its object should be to provide an opportunity for the discussion of principles and methods of town and country planning and kindred subjects; to enable those engaged in the practice of town and country planning to exchange views regarding their several experiences of its administration and application, and generally promote education in all matters relating to the science and art of planning in both town and country.

Does the school live up to this ideal ? The answer is without doubt, yes.

Wherein lies the special value of this annual gathering of planners ? Broadly, its value might be classified under three heads—academic, practical and social.

There are five papers delivered between 10 and 11 a.m. on each of the five first days of the school. These papers are prepared and delivered by well-known authorities in their particular branch. They are post-graduate in character. The subjects chosen are of a high intellectual value on the broader aspects of life. They are, however, related to planning. The speaker is asked if at all possible to tie his subject to town and country planning. This is invariably adhered to.

The object of these papers is to broaden the vision of the scholars, to get them away from the narrow field of their everyday sphere.

Many still seem to be under the impression that the school still listens to papers on, for example, widths of streets, layouts of housing schemes, etc.

The school aims at the broader issues and principles. These naturally are tied up with human environment. If you are to do justice to humanity and endeavour in the planning schemes now being prepared to assist the individual human being, who after all makes up humanity, you must, in the first instance, listen to men with a breadth of vision.

It is usual at most conferences to allow a discussion immediately after a speaker has finished delivering his paper. This usually ends by being either a political discussion or a repetition of the same questioners who derive pleasure from hearing their own voices. These so-called discussions are of little, if any, value academically. If councillors are present a discussion after a planning paper usually ends by becoming a platform for ventilating a condemnation on housing matters. Future convenors of conferences would do well to follow the example set by the Town and Country Planning Summer School.

After the paper has been delivered, the scholars reassemble into six or more discussion groups in the lecture rooms of the university. Each group has a chairman who is chosen by the organising committee for his ability to lead discussions. He has been provided with an advance copy of the paper so as to be able to pick out therefrom the salient points for discussion.

Each group then discusses the paper. The chairman analyses the discussion and chooses therefrom a number of points for putting to the author of the paper. So that there is no overlapping of questions, the chairmen meet before the afternoon's session and decide which questions are likely to produce answers most beneficial to the whole school.

The scholars assemble in the main hall immediately after lunch, where the chairmen of the discussion groups place before the Speaker the various views of the groups. The Speaker then elucidates the points raised. By this method everyone obtains an opportunity to have any particular point not only discussed in the group but eventually answered by the morning's speaker.

The subjects upon which papers were given and discussed at Nottingham were—residential density, changes in agriculture and their effect on the countryside, control of out-door advertisements in towns, public health in relation to town and country planning and discipline in civic design.

As these papers may not contain practical points which arise in the everyday workings of planning offices, main discussion groups meet at 5 p.m. for an hour and a half. These discussions are tutorial in character and the Leaders introduce the subject with a short address. The five subjects discussed this year were—development control, population improvements, development plans and programme guidance in the location of industry and planning aspects of holiday facilities. It will be seen from the titles that within these subjects the majority of points upon which any member of the school requires guidance can be ventilated. The experience gained or mistakes made are of particular interest to others who may be grappling with similar problems.

On the social side, there is an incalculable value in being able to house for one week four hundred scholars in three halls of residence. This encourages two persons or small groups of persons to discuss "shop." Everyone talks "shop" and makes no apologies for so doing. You are meeting on neutral ground where all sides and aspects can be discussed impartially.

All attending the school are looked upon as scholars, whatever their age or position in a particular office. This mixing of the age groups, thereby obtaining the views of young and old alike, has a beneficial effect upon the informal discussions that take place between lectures, and often well into the night. Under the social side of the school must be mentioned the excellent address which is delivered on the second evening of the school. This takes the form of an historical talk, usually by the lecturer in history at the particular university in which the school is held, on the growth and planning of the local town.

So that the members of the school from other countries, and any members who have not visited the area before can have an opportunity of seeing the district, a whole day's tour on the Sunday is arranged, visiting places of planning interest in the neighbourhood.

Members of any profession always have difficulty in keeping abreast with current literature. To keep planners informed on this subject a bookstall forms part of the school where members may both inspect and purchase planning literature.

It is always of interest to know of the steps being taken by the local planning authorities in the area. In this connection an exhibition which included maps, plans and excellent models was arranged jointly by the City of Nottingham and Nottinghamshire County Council.

During the years in which Lewis Silkin, now Baron Silkin, was Minister of Town and Country Planning he not only attended the school for the whole week, but either delivered a paper upon which there was a discussion or gave the opening address. This afforded him an opportunity to place before this large gathering of professional planners a forecast of future legislation, or to review the steps which had been achieved. Both Minister and the officials who carried out the planning in the field gained from these discussions on policy. This year the opening address was delivered by G. S. Lindgren, M.P., Parliamentary Secretary, Ministry of Town and Country Planning.

One was rather left to presume that the possibility of a general election in the near future did not assist in looking into the future, as his address was mainly devoted to suggesting how planners should carry the public with them. The question of trying to convince the public of the benefits derived from paying development charges was, however, omitted from this speech.

This annual school with its concentrated programme is having a beneficial effect upon the planning schemes which are being prepared for submission in 1951, which it is hoped will have as their aim the happiness and contentment of every man, woman and child in this country. If planning is not to assist the man in the street in his daily living it is a failure.

Next year's school is to be held at Oxford, and the 1952 school at either Edinburgh or Bangor.

M. E. T.

MATERIALS IN BRAZILIAN ARCHITECTURE AND THEIR USES

By

A. BYDEN, architect, Stockholm

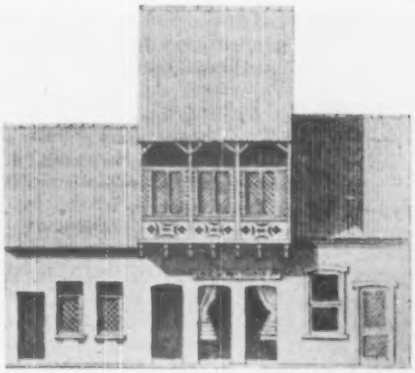
P. JOHNSON MARSHALL, A.R.I.B.A., A.M.T.P.I.

H. MODESTO, architect, Rio de Janeiro

HISTORICAL

WHEN the Portuguese settlers arrived in Brazil in the 16th century they found that, unlike the Aztecs, the indigenous tribes were comparatively backward. They lived mainly by hunting and practising a primitive form of shifting agriculture, and their dwellings consisted only of light wood and thatch huts, They had, however, a considerable knowledge of clay modelling, wood carving, and weaving with vegetable fibres of various kinds.

The Portuguese brought with them their own traditional building methods, which included a strong Moorish influence, and a considerable experience of building in their older tropical colonies. The chief characteristics were brick or adobe walls, Roman tile roofs, and spacious verandas. Wooden framed balconies were often cantilevered from the upper floors, and these were usually protected from the sun by pierced screens of ceramic elements or wooden trellis in a variety of decorative patterns. Two interesting facing materials in common use were the Azuleijo and the Mosaic, the one deriving from the Moors, the other from the earlier Roman occupation of Portugal. The Azuleijo was a square tile, varying in size from 10 to 15 cms. (4 in. to 6 in.), made of clay and glazed with enamel, generally in a blue and white colour (although yellow, green and other colours were occasionally used). Designs varied greatly from purely abstract and symbolic patterns to realistic

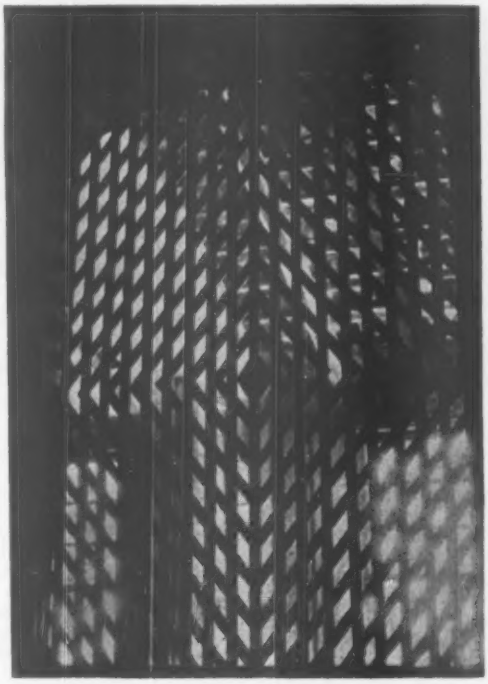


The Traditional Balcony

Elevation of a sobrado (two-storey dwelling) with large cantilevered balcony, protected by a lattice screen in wood. (Date 17th-18th century).

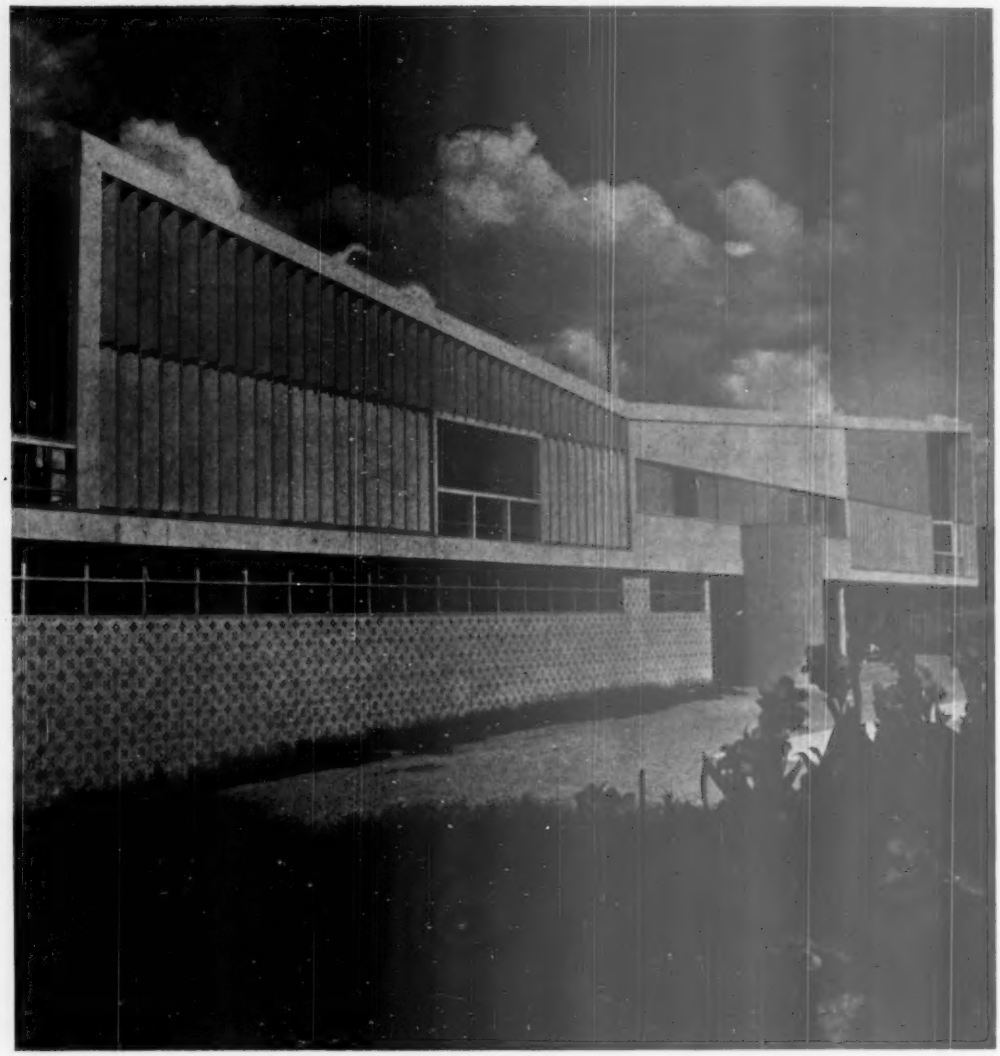
The Azuleijo

Above: Part of a wall in the Convent of São Fransisco, Olinda, faced with Azuleijos (glazed tiles). (Date 17th century.)



The Wooden Trellis

Right: A trellis window in an old farmhouse near Rio de Janeiro.



The Vertical Brise-Soleil

In the Pampulha Yacht Club 1944, Niemeyer used the vertical brise-soleil made of adjustable asbestos louvres in a steel frame. The photograph also shows the use of the Azuleijo as an external wall surface: the design is traditional.

scenes, not only on individual tiles, but forming murals over large surfaces, both internally and externally.

The mosaic was used as a floor finish both internally and externally and in the latter case forms a striking feature on the pavements and piazzas of Brazilian cities. These pavement mosaics were nearly always of black and white stones, between 1 in. and 2 in. square.

Another interesting technique was that of building walls with very small pieces of granite, known as Cangicado, a technique which gives a rich textural quality to a wall surface.

MODERN DEVELOPMENTS

The full development of contemporary Brazilian architecture has been considerably hampered by the backwardness of industry, and particularly by a great shortage of steel. A rapidly expanding economy, however, made necessary a variety of modern building types, such as multi-storied office blocks, flats, etc. To meet this demand Brazilian architects and engineers concentrated on the development of reinforced concrete, and in doing this they came up against the same problems of building finishes which have arisen in most other countries. Wisely turning to their traditional crafts, they have incorporated a large

number of traditional design elements and decorative materials with their new buildings. It should be remembered that in the tropics both the "piloti" and the "brise soleil" have a recognized traditional sanction.

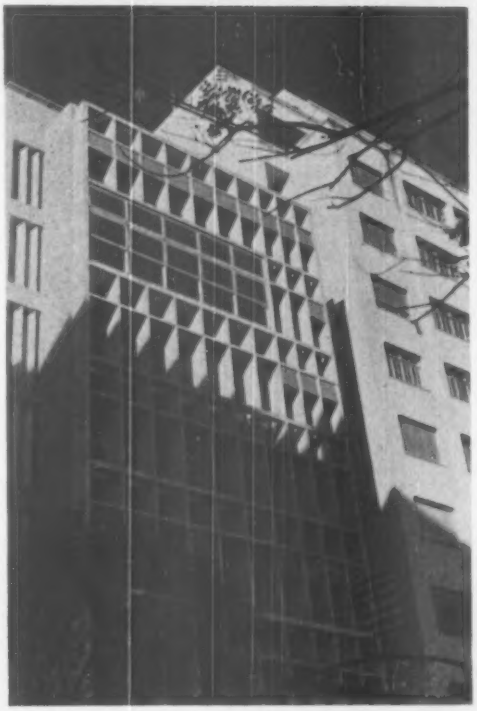
The result has been seen in a number of buildings, which not only fulfil modern scientific requirements and achieve well proportioned internal and external form, but have begun to solve the extremely important visual needs of colour, texture, and what in the past has been known as "decoration", as well.

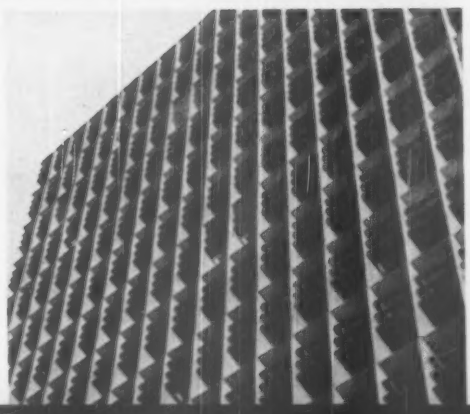
Mention should here be made of two additional factors which greatly enhance the buildings—mural paintings and landscape gardening. Although these form subjects for a separate article, the collaboration of architect with landscape architect, sculptor and painter marks a further progressive step towards the creation of a full and unified architecture.

TECHNIQUES AND MATERIALS

The Brise-Soleil

The Brazilian architects, led by Lucio Costa (the Director of S.P.H.A.N.) and influenced by Le Corbusier turned to the scientific solution of the tropical problem of heat insulation, and studying the ancient devices which had been in use for centuries to control the tropical climate, developed the "brise-soleil", or double wall fitted with louvres. Beginning with the fixed louvre, they developed various forms of "brise soleil" with louvres placed both horizontally





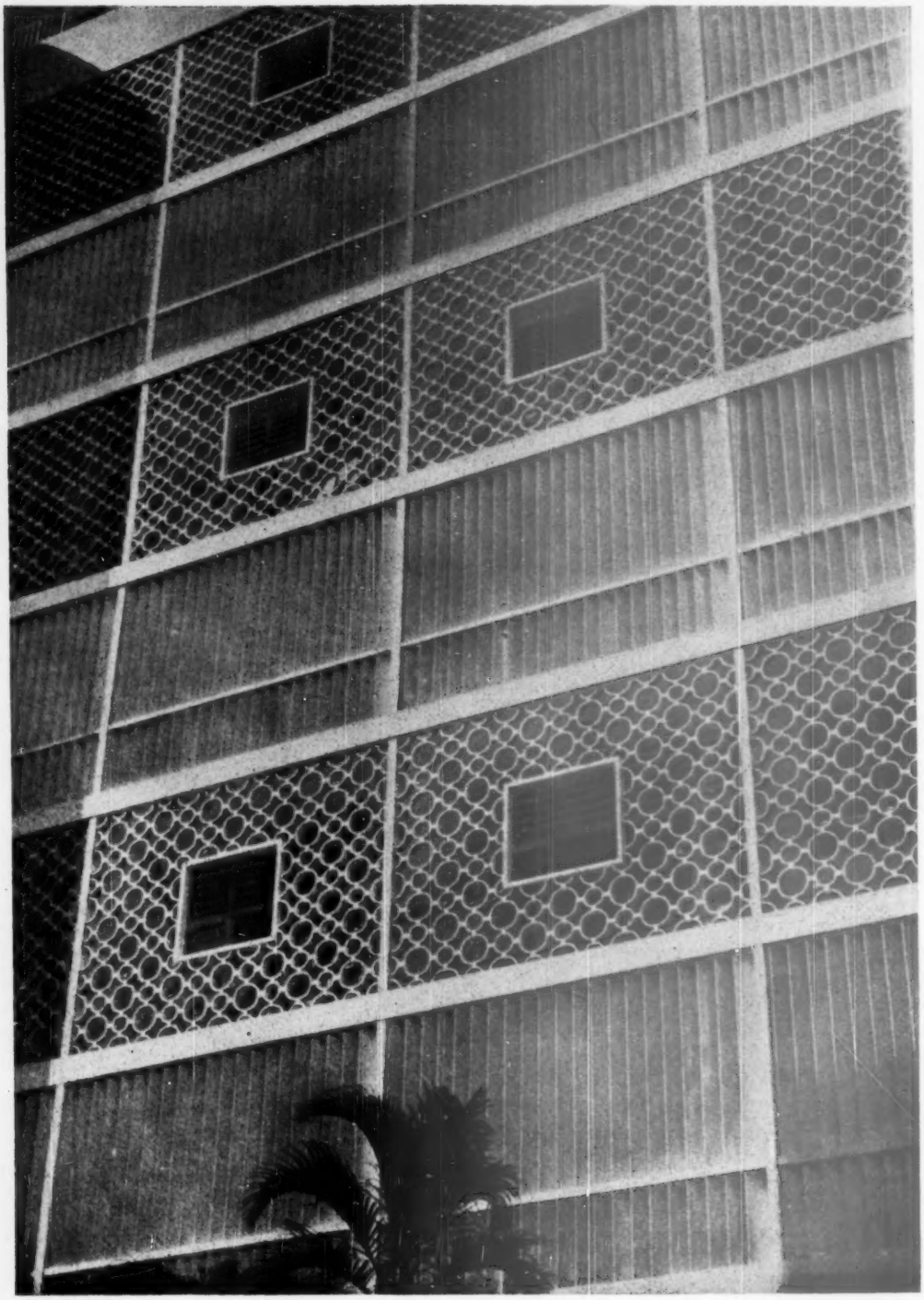
Vertical and Horizontal Brise-Soleil

Top right: In the Boavista Bank (1949) in Rio de Janeiro, Oscar Niemeyer has used the horizontal brise-soleil on the north wall, and a vertical one on the west. Both are of wood, and the latter, overlooking a narrow street, have been painted in blue, graded from almost white at the bottom to a fairly strong line at the top.

Middle right: In this block of flats (1948) in Rio, by the Roberto Brothers, the brise-soleil frame is deep, and the louvres are vertically hung.

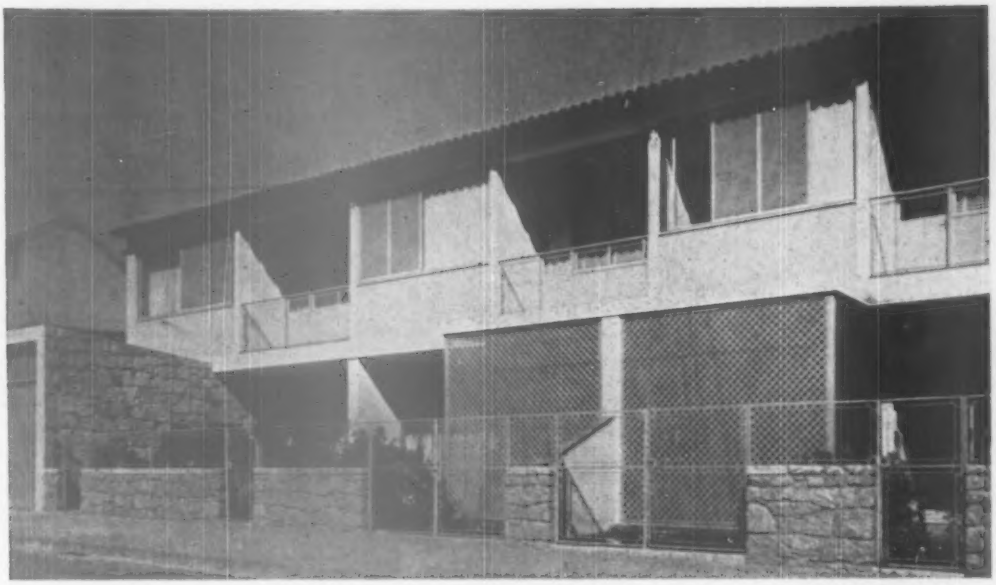
Bottom right: The north wall of the Ministry of Education (1936-42). Here horizontal adjustable asbestos louvres in groups of three are set in the egg box type of R.C. frame. The sheets are painted light blue and the frames white.

Below: This interior view of the Boavista Bank shows the vertical louvres on the left, and the horizontal ones on the right.



The Pierced Screen in Ceramic

Various patterns can be made with ceramic blocks, using different sections. Here is a block of flats (1949) in Guinle Park, Rio de Janeiro, in which the blocks are set in a reinforced concrete frame faced with light brown sandstone. The effect is one of great textural richness



The Pierced Screen: Trellis

These three houses (1949) in San Paolo by V. Venchuriutti, have verandas with a simple diagonal wooden trellis, and sliding wooden shutters to the bedrooms.

A typical design for a small suburban house by the Municipal Housing Office, Rio de Janeiro.

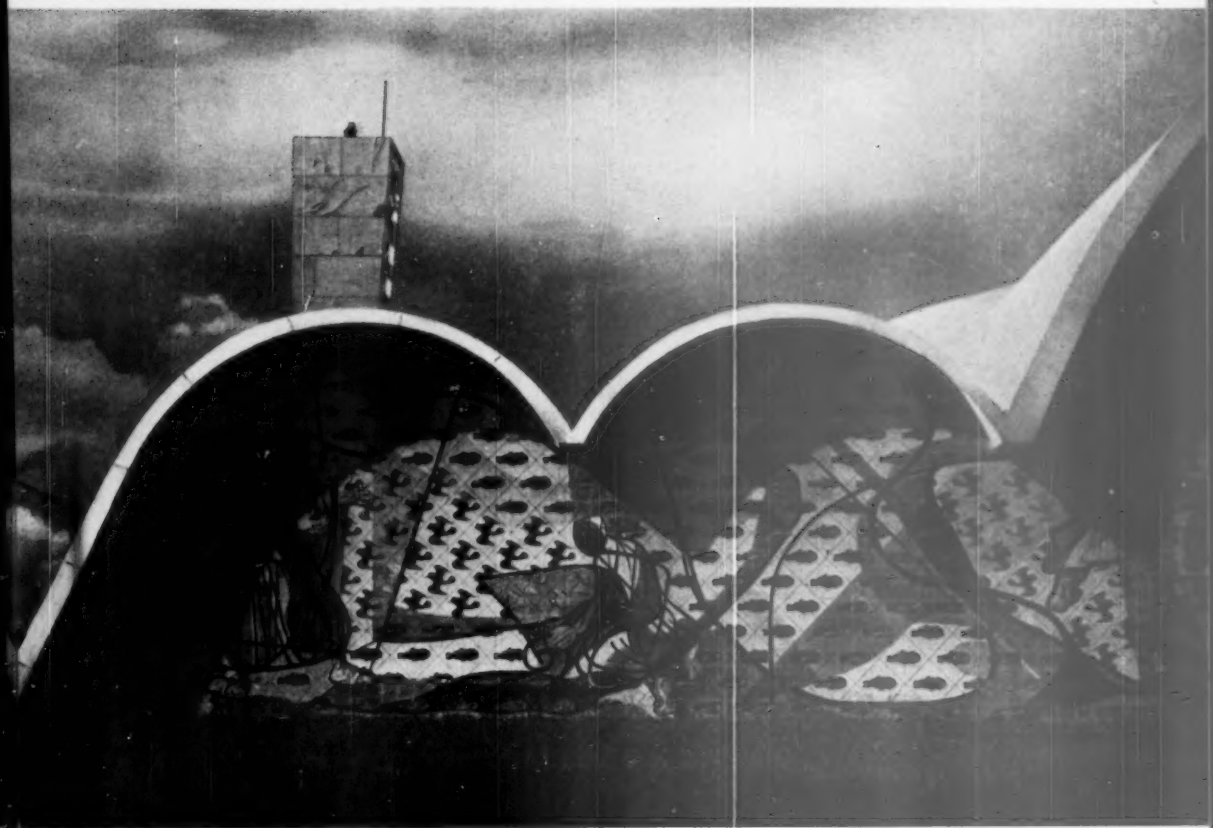
or vertically, using different sections and sizes, and in a variety of materials, such as asbestos in the Ministry of Education, concrete in the A.B.I. Building, and wood in the Boavista Bank. The "brise soleil" is still in an experimental stage of development and promises to give numerous variations in the future.

The Pierced Screen

Another traditional form of heat insulation which is being developed is the pierced screen, so well known historically not only in South America, but in Asia and Africa as well. In some cases wooden trellis is used, but more recently the use of various shapes of ceramic elements give endless possibilities for pattern making on a large scale. When creepers are grown up these screens, a cool and subdued light filters through.

Stone Slabs

Whenever cost permits the Brazilian architects have gone ahead with stone slab facings using a number of different granites, marbles, and other hard stones. The slabs are hung or dowelled in the usual way, but in big jobs they introduce stone cutting machinery on

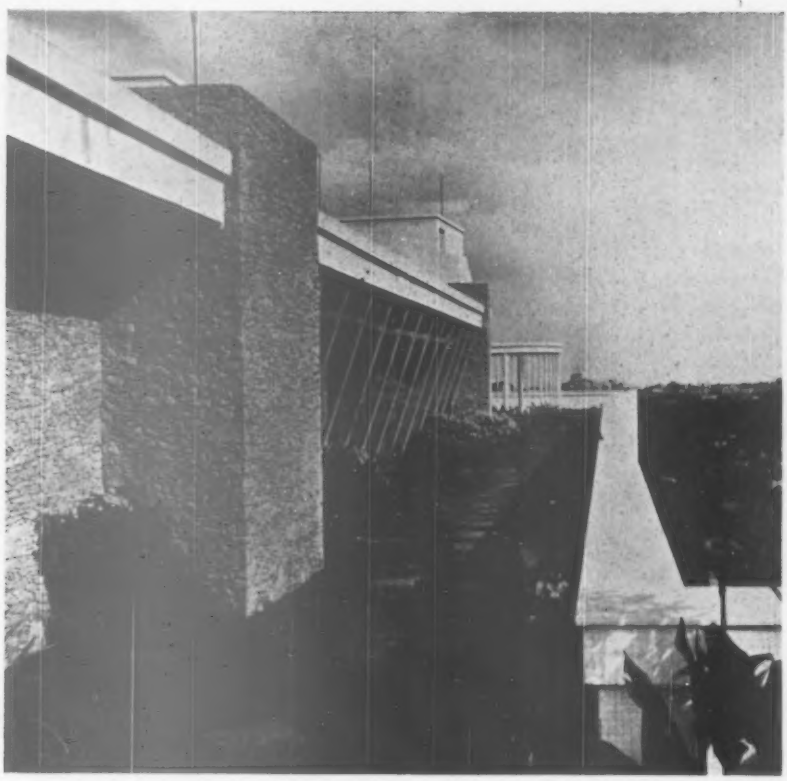


The Azuleijo: A Modern Design

Here, in the Church of St. Francis of Assisi (1945), at Pampulha, Niemeyer faced a whole wall with Azuleijo, and asked Portinari to design a mural for it. The dominant colours are blue and white.

The Azuleijo: A Traditional Pattern

In the Cafe at Pampulha (1942) by O. Niemeyer, Azuleijo are used as an external surfacing material. The pattern is built up of individual tiles of traditional design. Note the stone facings to the columns and canopy.



Cangicado
A wall in "Cangicado" granite on the roof terrace of a block of flats in Sao Paolo by the Roberto Brothers. The parapet on the right hand side of the picture is faced in mosaic. The landscaping is by Burle Mara.

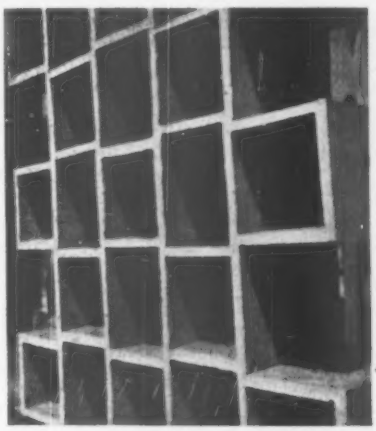
to site, so reducing the risk of fracture in carriage. "Pilotis" faced in stone are usually built in segmental blocks.

Azuleijos

The traditional technique of the manufacture of azuleijos had been kept alive, and fortunately in Portinari and other young artists were found those who were anxious to explore this medium of expression, using modern design in both the individual title and as a whole wall surface.

Mosaic

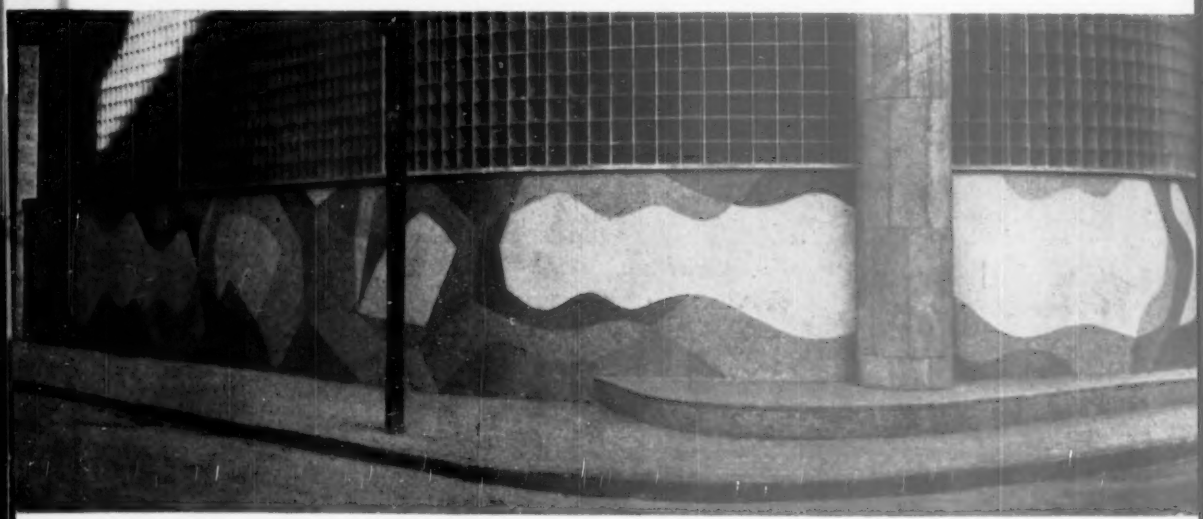
In the mosaic the traditional method of mural design was revived and an important new application was developed by using the mosaic as a plain wall finish. The manufacture of the mosaic had, however, been revolutionized in making them by compressing marble dust and cement, so that they were now available in large quantities at a relatively low cost. They are then stuck down by machine on paper ready for transfer to the prepared wall surface in sheets of 2ft. by 1ft. After fixing, the paper is washed off. Mosaic is now made in sizes 1 x 2 cm. and 2 x 2 cm. and is obtainable in several colours, both glazed and unglazed. It is a material with great possibilities for use in any urban building as it is hard, impervious, and is able, in addition to its other qualities of colour and flexibility, to be used on curved surfaces.



The Pre-cast Concrete Unit
An open pattern obtained by laying hollow square units in honeycomb bond.

Mosaic: An External Finish

Mosaic is shown here (actual size) as a machine made material, stuck down on paper and ready for fixing to a prepared surface. The top sample has a highly glazed finish of deep blue, while the lower one is in a matt white.



A Mosaic Mural

Mosaic is used both as a wall surface and as a medium for modern mural painting. It is illustrated in the latter form here at the base of the Boavista Bank, and was executed by Paul Werneck in 1948. The principal colours are blue, white, brown and cream.

MATERIALS IN BRAZILIAN ARCHITECTURE AND THEIR USES

NEWS of the BUILDING INDUSTRY

THE international situation is serious. If it goes the wrong way the country may well find itself in similar or worse plight than the situation from which it has been struggling since the war. *If* this were to happen, the practical work of these post-war years—the housing, the new towns, the 1951 Exhibition—would stop. But even if the clouds pass, the country is now committed to a programme of defence expenditure which is sure to make its impression, not only on the industry as a whole, but on each and every individual connected with it. Meantime, we may expect that an endeavour will be made to keep things going. The labour problems, the cost problems, the quality problems, the political problems, will be, if anything, increased. Intensified efforts will be needed to solve them. In view of the very international situation which brings these difficulties, the solutions will probably be of short-term nature, if for no other reason than that short-term plans allow of flexibility.

But what of long-term plans? War or no war, what of the future?

To plan—no, not that word; it has brought too much frustration with it these last few years—to organize for the future we must look back. More than that, we may have to go back—*reculer pour sauter mieux*.

What has happened? Since, and as a result of the Industrial Revolution, the Building Industry has been milked of much of its trained manpower by new industries.

These new industries, efficiently managed, have provided operatives with many opportunities which are lacking in the building industry. For instance, many of the new industries provide regular work, in one locality, with paid holidays. The building industry cannot by its nature do all of this. Again, the new industries often provide better working conditions. But, most important of all, they provide a stepladder for the hard worker: a stepladder on which he can make regular progress (with resultant financial benefit and improved standards of living) from apprentice to management.

The real solution to the Building Industry's problems, therefore, probably do not lie in piecemeal juggling with incentive schemes, apprentice schemes and mechanization schemes, but in a much broader approach. An approach which—war or no war—will put the whole industry on a footing which can compare for man-drawing power with any other industry. In short, there must be a national approach in an attempt to get all members of the huge team moving in one direction to replace first the desire for political nationalization—which can only result in greater class strife—and second, the sectional approach.

ON LEADERSHIP

This article is based on views put forward by a leading member of the Building Industry, an employer who has had the dual advantages of a good education, combined with practical experience as an employee at all levels. His views may be too advanced for diehards to assimilate. But, if it is admitted that the Industry is in need of reorganization, it may perhaps be reasonable to expect such organization to start with the training and opportunities available to the younger men who will or should be responsible for the conduct of building work in the future. So far as prophecy is possible, the chances of real rebuilding may, in the light of the new international situation, be delayed perhaps for a decade or more. It is our duty therefore to organize for a decade and more ahead. The Building Industry cannot be operated purely from within itself, it is too closely bound up with all branches of public life. Education in the schools, in the universities and on the job, must be the starting point for a fresh approach from the human relations angle which is the prime factor in training for management.

At first sight, this involves upheaval. If regarded as a short-term policy, it would mean upheaval. But, if regarded as a long-term scheme of considerable urgency, it need only involve a casting-off of prejudice by a few diehards.

What the Building Industry needs to-day is leaders. Under the leaders it needs a stepladder from which new leaders can climb easily into positions of responsibility. There must, in fact, be established an organized chain of command. The first step, the most important step, is training for management. If men are to be drawn back to building from other industries—if they are to be prevented from drifting from building to other industries—then more must be done than paying a bricklayer a little more for laying a few extra bricks. Nor does the answer lie in artificial raising of wage rates. Refer for a moment to the Trades Unions American report, reviewed in our issue of August 11th. It says: "As long as American capitalism continues to deliver the goods in the form of a rising standard of living, there is little possibility of social economic planning gaining many adherents." Note that the key to the problem does not lie in the planning. . . . Nor does it lie in capitalism. The key lies in delivering the goods in the form of a rising standard of living. A rising standard of living for the mass of the building brotherhood implies rising standards of efficiency within the industry. This increased efficiency can only come from better management and better leadership at all levels.

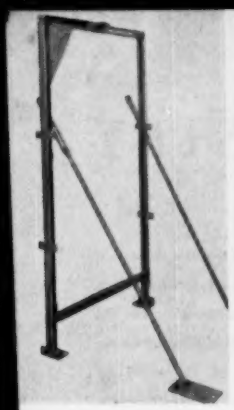
A first essential, then, is to train men for leadership and management. A second essential is to provide the stepladder which can be the only true incentive.

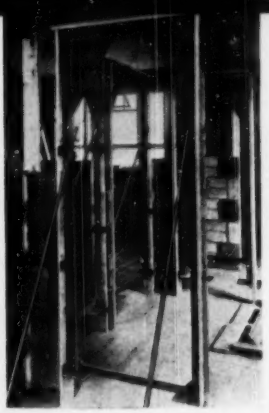
It is perhaps not sufficiently appreciated that the qualities required in a leader—and they may be latent in the good craftsman—may not show themselves unless they are brought out by training. What is perhaps more important is the fact that many men who by virtue of a pushing temperament may appear to be good leaders are not. So, for want of good breeding grounds and for lack of adequate support, much of the industry continues to operate on a hit-and-miss basis. On the site particularly, one hears of instances of a man being picked at random to be a gang leader.

From lack of training in leadership he may lack confidence in his powers of leadership. But even if he proves to be a first-rate leader, there is no guarantee that on his next job he will retain his newly won promotion. Is this an incentive?

The Building Industry is big enough and important enough to need men with wide education of high standard. The universities could help. Employers could do more to broaden their outlook and to earmark likely men for promotion.

The post-war years have done much to show where the mistakes have been made. The outlook has been too narrow, too partizan. Let us eschew political nationalisation, but let us be national minded about building, for until there are provided real incentives to join and belong to the industry, the short-term problems will remain to hold up progress.





PLANT-JIGS E9/1

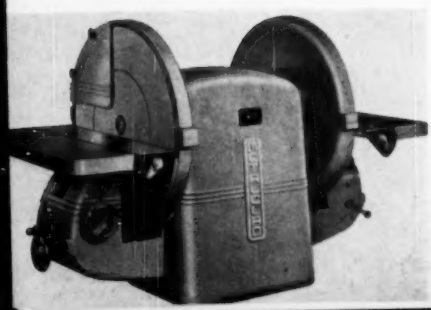
First produced July, 1949, this rigid metal brace for quick, true fixing of door frames weighs 68 lbs. It is adjustable. Maximum time for erecting a frame is said to be 15 minutes. No battens are required. Dimensions (closed), 2 ft. by 5 ft. 11 in.

SERVICES HEATING B3/4

A gas convector heater for heating up to 2,250 cubic feet under normal conditions. Dimensions are 18 in wide by 7 in deep by 30 in high. Weight, 57 lbs. Gas input is 10,000 B.T.U. per hour. The heater has a cast iron housing with acid-resistant vitreous enamel finish in two colours—bronze green and mottled brown. A pressed steel model at less cost is also available. The heater is fitted with lugs for floor fixing and has an insulating air space at the back and above the louvred air outlet. The constant-pressure gas governor is set to an outlet pressure of 15 tenths w.g.

FITTINGS C2/2 SINKS, ETC.

A combined wash basin and fitted dressing table in aluminium with a one-piece plastic top. The drawer has a divided lift-out tray in white plastic for cosmetics, shaving kit, etc. A disposal bin on the inside of the cupboard door is a feature which should be included in all bathroom or bedroom fittings. The bin is easily removable. The wash basin is finished in cream vitreous enamel. Apart from its obvious applications this fitting should be just the thing for theatre dressing rooms.



PLANT WOODWORKING E1/4

Produced in May, 1950, this sanding machine for pattern makers and furniture makers has an entirely enclosed motor. Table cants 45° down and 10° up. There is positive lock for all motions. Discs are on a flanged hub on the main spindle. The abrasive paper is glued direct to the discs or discs are available with the abrasive paper held against a cork facing by a tapered outer ring with adjustable studs.

MOSAICS

The names and addresses of manufacturers of any item illustrated in MOSAICS, together with more detailed information relating to their products—including price and availability—will be forwarded to readers on request.

Letters should quote the serial number and be addressed to :

The Associate Editor,
The Architect and Building News,
Dorset House,
Stamford Street, S.E.1.

Please mark the envelope MOSAICS.

* INTEREST *

A NEW ALUMINIUM ROLLING MILL was opened at Rogerstone, near Newport, Monmouthshire, on Thursday, September 21st, by Mr. G. R. Strauss, Minister of Supply, for the Northern Aluminium Company, Ltd.

The new mill, laid down to the general specifications of the Company's engineers, produces sheet, strip and corrugated sheet aluminium, from ingots, by the continuous strip process. The products of this mill are commercially pure aluminium of the work-hardening type, which are in general use for building and other purposes. Other classes of alloy could be rolled, if demand justified, without major alteration to layout or technique.

One advantage of the continuous strip process is that it makes possible an increase in production, per man employed, of about five times that in earlier plants.

The buildings, plant and processes will be described and illustrated in a forthcoming issue of Factory Processes in *The Architect and Building News*.

The buildings which house the mill were carried out to the spcification and under the supervision of the Northern Aluminium Company's Engineering Staff. The consulting architect was Gilbert T. Gardner, F.R.I.B.A., and the general contractors were Messrs. Hinkins & Frewin, Ltd.

Wall cladding and facings of the giant hangar-like buildings are chiefly in corrugated aluminium sheet, from which there are lessons to be learnt. In this case the problems of finishing were complicated by the need to allow for extension in several directions. But for buildings where such difficulties do not arise, it seems clear that economy and appearance will depend largely on the designer's willingness to plan from the start with standard sheet sizes in mind. The latitude permitted by the standard size of building sheet at present produced in the mill is considerable. But failure to appreciate the limitations of standard sizes at an early stage may result in unsightly changes of level at the jointing of sheets and particularly at window and door openings.

The new mill increases the production of aluminium sheet. The full effect of this increase can only be realized at the consumer end if the most economical and efficient use is made of the material by designers, who may therefore be interested in the full description of the new strip

rolling plant contained in a brochure issued by the Northern Aluminium Company.

•

FIVE EXHIBITIONS IN ONE, organized by the Ministry of Works to show technical aspects of modern building, will be held at Morsmith Garage, Frederick Street, Cardiff, during the week October 2nd-7th inclusive.

The five subjects to be demonstrated are : Modern Site Organization, Plumbing, Codes of Practice, Thermal Insulation, Steel Efficiency. Exhibits are also being staged by the Wales Gas Board and the South Wales Electricity Board.

The Exhibition is to be opened by the Rt. Hon. Lord Morrison, Parliamentary Secretary to the Ministry of Works, at 2.30 p.m. on Monday, October 2nd. The Lord Mayor of Cardiff, Alderman George Williams, C.B.E., will take the Chair at the opening ceremony.

After the ceremony the Exhibition will be open to the public from 4.30 p.m. to 5.30 p.m. On following days the hours of opening are 10.30 a.m. to 5.30 p.m. Admission is free.

Films on various aspects of the Building Industry will be shown during the Exhibition.

Brief descriptions of the five Ministry of Works exhibits, which formed part of the recent Building Week at Leeds, are appended.

The greater part of this Exhibition will also be shown at the Corn Exchange, Bristol, from October 19th to October 25th

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THE PLASTICS DIVISION OF I.C.I. offers £100 in prizes for the design of a hotel reception office. The object of the competition is to demonstrate the suitability of plastics, particularly "Perspex" acrylic materials.

Judges will be Leslie Hardern, Chairman D.I.A., A. Renfrew, B.Sc., Development Director, I.C.I. (Plastics Division), Basil Spence, O.B.E., F.R.I.B.A., F.R.I.A.S. Closing date for entries is December 7th.

Competitors are asked to design a reception office for a small but exclusive hotel catering for high-class Continental and American tourist trade. The hotel has 20 bedrooms and is in Mayfair, London.

All entries and correspondence should be sent to the Editor, *Art & Industry*, 66 Chandos Place, London, W.C.2, and marked "Competition VIII" on the outside of the package or letter. All drawings must be packed flat.

•

IN NEW YORK the British Trade Promotion Centre was opened on September 7th.

The Centre is situated in the heart of New York on Fifth Avenue at 53rd Street. It is being organized and managed by the British Commonwealth Chamber of Commerce in the United States. Organizations in the United Kingdom which have already decided to participate in the Centre are :— The Dollar Exports Board, Federation of British Industries, National Union of Manufacturers, Scottish Council (Development and Industry), and B.E.T.R.O.

The Centre's main functions will be to provide information, advice and help to British industrial organizations and individual firms on any and every aspect of exporting British goods to the U.S.A. and to represent the views of British industry, as occasion requires, to the American authorities and American business men.

An important feature of the services available at the Centre is the provision of a number of offices available for letting on a day-to-day basis to visiting British business men.

A RECORD NUMBER—79—of applications for this year's National Plumbing Studentship Awards were received. Twenty-five applicants were selected for interview by the respective Area Committees.

The studentships are controlled by the Awards Council under the ægis of the Plumbing Trades National Apprenticeship Council, and four £50 awards are made each year through the continued generosity of 11 material producers' associations.

This year's successful students were able to visit factories, building sites, works, shipyards, etc., for the purpose of increasing their knowledge of the processing and actual use of the various materials used in the plumbing industry.

Applicants for the awards must be plumbers under the age of 26, but in the case of an apprentice who has served in H.M. Forces special consideration will be given regarding the age limit. All applicants must have passed the Final City and Guilds examination in plumbing (or its equivalent).

Application form and full particulars may be had on request to Mr. A. E. Soones, R.P., Hon. Secretary, Plumbing Trades National Apprenticeship Council, 15 Abbeville Road, Clapham, London, S.W.4. Application forms for the 1951 awards must be in the hands of the Hon. Secretary not later than Monday, January 1st, 1951.

•

THIS ONE REALLY IS TRUE, according to the L.M.B.A. Directors' Letter to members for September : "The Committee is hiding behind two red herrings."

•

THE GENERAL ELECTRIC CO. LTD. has developed a new Osram 1-kW mercury lamp to enable the lighting of large industrial premises to be carried out efficiently with a smaller number of lamps and a consequent reduction in installation and maintenance costs.

The new lamp is said to have an average efficiency through life of 45 lumens per watt, which is some 25 per cent higher than the corresponding figure for the 400-W lamp, previously the largest made. Its average light output of 45,000 lumens is nearly twice as much as that of a standard 1,500-W gasfilled tungsten lamp. The lamp has a bulb of the shape known as isothermal, and is fitted with a G.E.S. cap.

•

A NEW BULLETIN has been published by the D.S.I.R. The first number is part of an experiment, the immediate objective of which is to obtain a list of questions to which there may be answers but which are not answered by the normal process of searching for information.

The success of the experiment naturally depends on the co-operation of readers of the Bulletin, which is titled "Unanswered Questions."

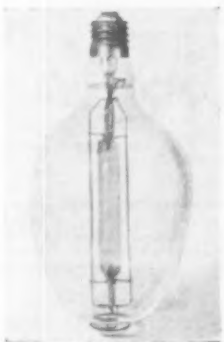
Examples of questions contained in the first number are :

U.Q. 12. What is the best method of protecting a structure from subsidence, following the cutting of a tree endangering it and the eventual death and decay of its root system.

U.Q. 13. Is there a machine suitable for grinding the relief on combination centre drills ? This machine to be fully automatic, and be commercially available ?

U.Q. 15. Is there a metal with lightness and machinability of duralumin but with Young's Modulus of steel.

Those interested in receiving copies of the Bulletin should notify D.S.I.R., Intelligence I, Charles House, 5-11 Regent Street, S.W.1.



The new G.E.C. lamp described on this page.

•

LAYING OF WATER MAINS on both sides of roads on new housing sites is discouraged in a letter from the Minister of Health to all housing authorities. As the delivery period for pipes, owing to heavy demand, may be as long as 72 weeks for pipes up to 6 in diameter, the practice of laying double lines can, in the Minister's view, only be justified where roads are intended to carry a considerable volume of traffic. In other cases, a single main, with cross-connections to common service pipes of small diameter serving groups of houses on the opposite side of the road, is advocated.

Lack of co-operation with the Minister's recommendation might increase demands for housing schemes by as much as 75 per cent at the expense of rural water supply schemes now being laid to meet agricultural requirements.

•

EMPLOYMENT VACANCIES rose from 733 to 783 during August, according to the State Registry monthly report. The unemployment total was 233, against 235, of which 161 are in Salisbury and 72 at Bulawayo. A rise from 126 to 236 vacancies is shown in the building trade and from 80 to 85 in engineering. Vacancies have risen from 44 to 67 in the motor trade. Few men are available in these categories.

•

STRUCTURAL & MECHANICAL DEVELOPMENT ENGINEERS, LTD. (known as S.M.D.), of 2 Buckingham Avenue, Slough, announce that the Air Ministry, acting on behalf of the Ministry of Civil Aviation, has placed an order on them for the design, construction and erection of a three-bay hangar for London Airport, to be manufactured entirely in aluminium alloy ; each bay 150 ft overall span width by 110 ft long, with clear doorway openings of 125 ft by 30 ft high.

It is stated that this is by far the largest structure of this type ever designed in aluminium alloy.

•

THE DUNLOP RUBBER CO., LTD., announces the appointment of Mr. A. E. Pickard as general manager of Semtex, Ltd., the subsidiary company specializing in flooring and decking treatment.

•

DOMESTIC HOT WATER HEATING is the subject of an interesting window display at Crown House, Aldwych, by The Hotpoint Electric Appliance Co., Ltd.

•

J. A. CRABTREE & CO., LTD., announce the appointment of Mr. W. J. Johnson as the company's resident sales representative in the Newcastle area.

GOOD, BAD OR INDIFFERENT?

By A. FOREMAN

No. 10

Hot-water Boilers

There is a very wide variety of small independent boilers and back boilers available for heating the domestic hot water in single family houses, so the choice is apt to be difficult. One of the important factors in selection is to make sure that all-night burning will be possible, which means running for at least ten hours unattended. All-night burning is not, of course, possible with some types of heating appliance but the bother of rekindling daily is a most important consideration. Independent boilers, closed and closable stoves, all permit of this continuous burning and at the same time heat water adequately if they are of the right type and size. I have heard many complaints in the past about small independent boilers not being capable of being kept in all night however well fired, even with the most suitable fuel, and nothing seems to annoy householders more. A very small extra first cost eliminates this trouble completely. Even when boilers do burn all night, it is still worth while to install a gas poker point near the boiler when there is gas available.

Most of the small independent boilers on the market to-day burn all night if the correct fuel is used but a margin is desirable to take care of less suitable fuels. To burn all night a fuel capacity of at least 0·6 cu. ft. is needed for the smallest size and rather more if the heat losses on the system are large. In addition to fuel capacity it is essential to have well-designed tight-fitting doors with a type of controlled air-inlet capable of very fine adjustment.

The other basic consideration is the amount of heating surface. If you have a system with a secondary circulation, 3 sq. ft. heating surface should be the minimum but on direct systems with short draw-offs 2 sq. ft. may be just sufficient, especially when proper lagging is installed. Slightly over-size boilers are usually rather more economical to run, as they do not have to be driven so fast, thus reducing the risk of clinker being formed. It is very desirable that the system is designed to heat water up to temperatures of about 150° F.; when temperatures rise above this figure, the heat losses increase rapidly and the tendency to form scale increases. Where an indirect system is used, you can go up to 175 or 180° F. for the primary circulation, as only a very small amount of scale can be formed since so little new water is used; and also primary circulation pipes are usually lagged to reduce heat loss at the higher temperatures.

Copper boilers are widely used in soft water districts together with copper pipe systems, but when cast-iron boilers are installed the additional small cost of 'bower-buffing' is well worth while to reduce corrosion.

In small systems safety or relief valves are seldom fitted, although many boiler makers recommend them. Many authorities think that the open expansion pipe is even more reliable than the safety valve, but care must be taken to see that it cannot freeze, which it will do easily as I have experienced to my cost, so lag it for its full length until it is under the cover of the cold water storage cistern. Avoid putting expansion pipes through the roof as it is expensive and they are very liable to freeze.

Many small boilers do not have a waterway under the fire but are provided with base plates, but even with these it is important to provide an adequate incombustible hearth extending well in front of the fire-doors, especially if these are of the "fall-front" or "open-fire" type as hot ash is so liable to fall out and burn the floor surface or floor covering.

A rather frequent fault, sometimes difficult to avoid in small houses, is to provide insufficient access round the boiler for sweeping, general cleaning and especially for the periodic cleaning out of the waterways of the boiler itself.

Another point I have noticed from time to time is the installation of asbestos-cement flue pipes to connect boilers to brick flues. This is most unwise for at least the first 4 to 6 ft above the boiler, as asbestos-cement may fail if there is direct contact of flame on the flue pipe. Another small point in regard to flues is to avoid using light quality cast-iron rainwater pipe as flue pipe; use proper cast-iron flue pipes complying with B.S. 41 which are designed to meet the rather severe conditions to which they may be subjected. Watch also that the joints are well made in the flue and between the boiler and the flue pipe; they are best caulked with asbestos and boiler cement.

It is seldom necessary to worry about the working pressures of small domestic boilers as most boilers from reputable makers are tested to meet a head of 60 ft of water which is usually much more than that involved; it is, however, a point to watch in larger systems in buildings having many storeys. Do not forget to provide a drain-cock on or near the boiler so as to be able to empty the system at the lowest point.

One last point for the householder's assistance. Choose boilers with vitreous enamel finishes as the extra cost is not very large and the saving of work enormous.

ACCIDENTS IN BUILDING

Never up, never in!

The ladder is such an ordinary feature of a builder's working day that operatives are apt, through familiarity, to ignore simple precautions against accident.

DO YOU KNOW THE RULE?

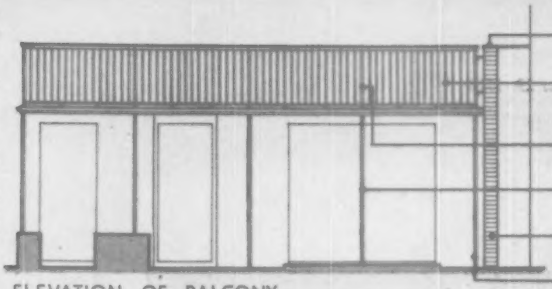
Regulation 29 of the Building (Safety, Health and Welfare) Regulations, lays down that the ladders, when used as a working place or means of communication, must reach at least 3 ft 6 in above the place of landing or above the highest rung to be reached by the feet of the man on the ladder—or adequate handhold must be provided.

Every ladder or run of ladders rising more than 30 ft shall, if practicable, have intermediate landing places of adequate dimensions.

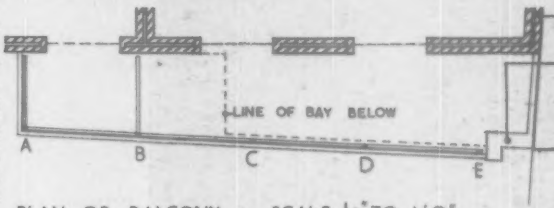
This regulation also deals with defective ladders and the use of wooden ladders.

If ladders cannot be fixed so that they are immovable from top and bottom points of rest than a man should be at the bottom of the ladder to prevent it slipping.

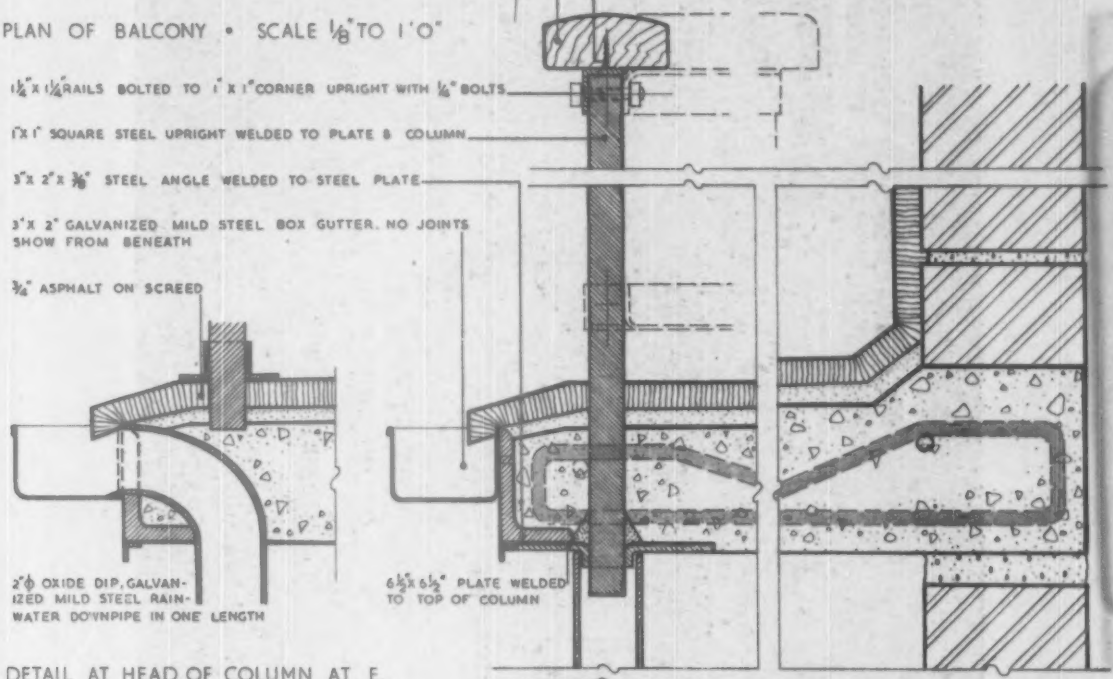
In this week's cartoon that man seems to have been for a burton and his mate has certainly gone for one.



ELEVATION OF BALCONY

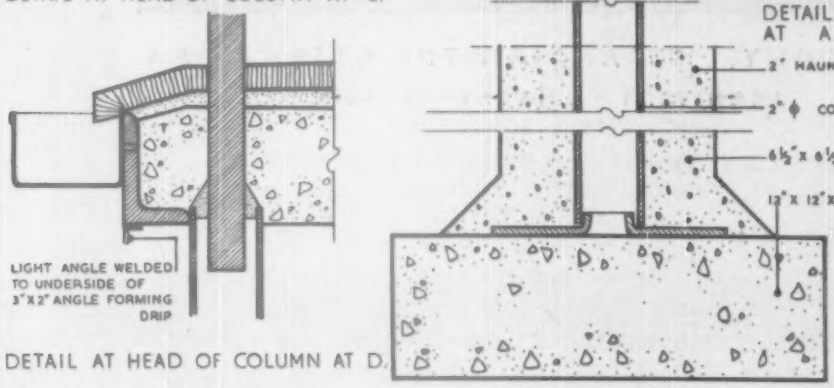


PLAN OF BALCONY • SCALE ⅛" TO 1'0"



DETAIL AT HEAD OF COLUMN AT E.

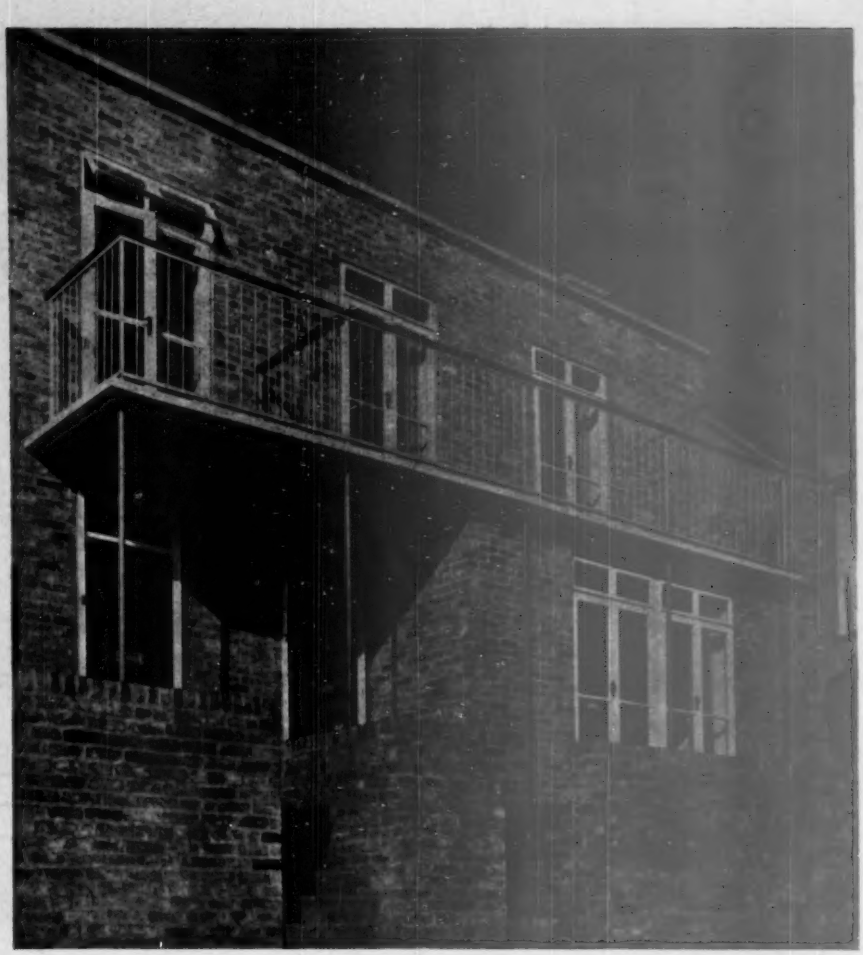
DETAIL AT HEAD OF COLUMN AT A. B. & C.



DETAIL AT HEAD OF COLUMN AT D.

DETAIL OF BASE TO ALL COLUMNS

SCALE ¼ FULL SIZE



A BALCONY, STRAND-ON-THE-GREEN, W.4

ARCHITECT : HARRY DURELL

FACTORY PROCESSES—

No. 2

The main points of extrusion in architectural work are that it is a practical method of making difficult sections; it affords great scope for ingenuity in design and places little restriction on the designer, and the availability of special sections often simplifies design and installation. Correctly used, the process can be of great benefit, but it is essential that the problems of the die designer and press operator should receive consideration when sections are being evolved.

In this article the processes of extrusion, their advantages and limitations are explained.

Fig. 1.

THE EXTRUSION OF ALUMINIUM SECTIONS

A noteworthy feature of modern building technique is the rapid increase in the use of aluminium for both structural and decorative purposes. The facility with which aluminium can be extruded in an almost limitless number of shapes is a major reason for its popularity in the design of such items as doors, windows, glazing bars, handrails, skirting boards, roof trusses and ceiling supports (Fig. 1).

At temperatures between 400°C and 550°C aluminium is soft and malleable. By the application of pressure it can be made to flow through shaped nozzles, or dies, and, on emerging, it retains the shape imparted to it. Considerable pressure is necessary and, for the largest sections, hydraulic presses of 7,500 tons capacity may be required.

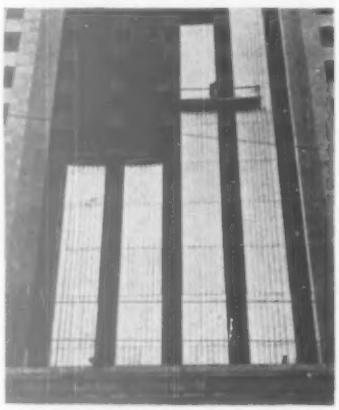
The aluminium is first cast into a cylindrical billet (Fig. 2) which is heated in a furnace to the required temperature. It is then transferred to the chamber of the press, which is also heated, and a steel pad, or "follower plate" (Fig. 3) placed behind it. The hardened steel die, cut to the contour desired, is already in position at the front of the press (Fig. 4) and when pressure is applied by a hydraulic ram pushing against the follower plate the aluminium squirts through the die, out on to guide rollers, where it is cooled. Some sections, including the majority of architectural shapes, are used in the "as extruded" temper, while others in the stronger alloys may be subjected to heat treatment to improve their strength. Decorative finishes, such as polishing or anodizing, can also be applied to the extruded lengths.

One advantage of this method of manufacture is that shapes which would be difficult to make in any other way are readily fabricated by extrusion. An assembly of members normally riveted or welded together can be made in one piece, while hollow sections and interlocking shapes can be designed without difficulty. Secret fixing attachments can also be included in a section when desired. The structural designer, too, can make good use of the extrusion process to dispose his metal so that the section approaches the theoretical ideal.

However, despite the obvious attractions of extrusion—and there is no doubt that it has solved many awkward problems—like many other processes, it has its limitations, and an understanding of the difficulties which sometimes confront extrusion suppliers may assist architects and others in the design of sections which can be made with the minimum expense and wastage.

Size

The maximum cross-sectional size of an extruded section, with the plant available in this country, is that which can be inscribed in a 15-in diameter circle. Sections of this area will rarely be needed except for some major project, such as the door mullions of the Brabazon Assembly Hall (Architect: Eric Ross, F.R.I.B.A.), but greater widths may sometimes be desirable, and in this case sections can be designed for joining together. The Laurentien Hotel, Quebec (Architect: L. A. and P. C. Amos) has 70,000 sq. ft. of aluminium wall facings which consist of interlocking fluted extrusions 12 in wide joined together into panels 7-9 ft wide by 9 ft long. The length of extruded sections is normally limited only by transport facilities (heat-treated sections, however, are not supplied over about 38 ft long except by special arrangement). When the design permits, it is cheaper to order random lengths, although, of course, exact lengths are supplied if specified.



Extruded aluminium wall facings being installed on Laurentien Hotel, Quebec. Each flute is on extrusion 12 in. wide which interlocks with those on either side.

By courtesy of Aluminium Co., of Canada, Ltd.

Shape

Almost any shape, within the size limits quoted above, can be extruded, but some shapes are more difficult than others. Cost is dependent largely on shape.

The following points should be noted when designing new sections:—

1. Simple shapes are the easiest to extrude, irrespective of size. Thin and intricate sections are most difficult.
2. Symmetrical shapes are preferable to irregular sections.
3. Sharp corners should be avoided and a minimum radius of $\frac{1}{64}$ in. allowed on all corners.
4. Sharp changes of sections are undesirable and should be replaced by graduated changes using fillets.
5. The absolute minimum thickness in any part of a section is about $\frac{1}{64}$ in but in general the minimum thickness should be kept to $\frac{1}{10}$th of the circumscribing circle.

Dies

More than 20,000 different dies are held by the various extrusion suppliers in this country and the expense of new dies will be saved if a standard section is chosen from their catalogues. If no existing section is suitable, a die can be made at a cost of a few pounds and many manufacturers do not charge for it, if the quantity ordered is above a specified minimum.

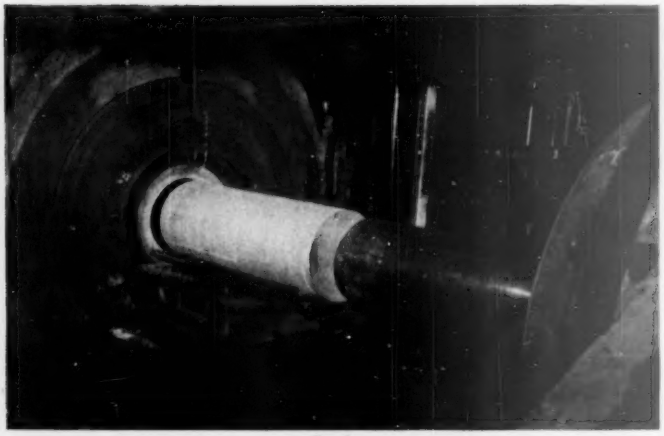


Fig. 2.

The heated billet is loaded into the press chamber. After this, the follower plate is inserted and pressure applied by the ram.

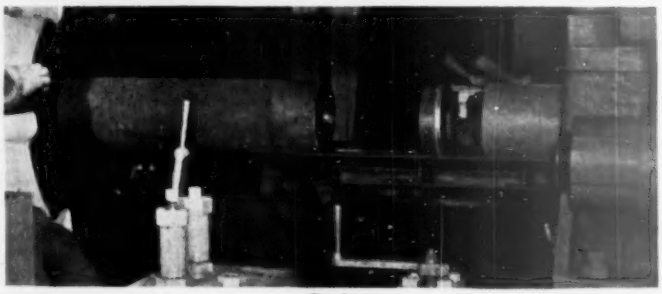


Fig. 3.

The ram is being brought up against the follower plate to force the billet (part of which is visible on the right) through the die.

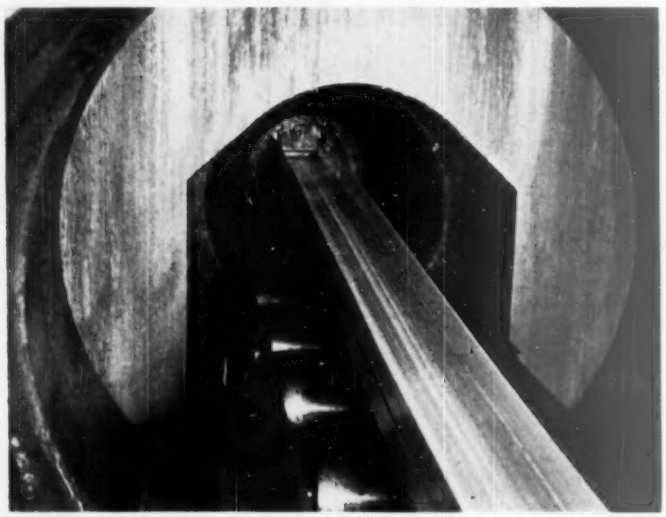


Fig. 4.

Extruded section emerging from the die on to guide rollers.

Alloys

The large number of alloys and proprietary names current in the aluminium industry is often a source of confusion but this should largely be dispelled by the new series of British Standards* which establishes standard nomenclature and designations recognized by all aluminium fabricators.

B.S. 1476 : "Bars, Rods & Sections" details the alloys suitable for extrusion and, of those listed, the following are of chief interest to architects :—

E1C: 99 per cent commercially pure aluminium. This material is suitable for the majority of architectural sections. It is highly resistant to exposure and takes an excellent finish but is of comparatively low strength.

HE9: This medium-strength alloy, also very resistant to exposure, is of good appearance and is widely used for window and door sections.

HE10: Similar to, but stronger than HE9, this is recommended for most structural applications such as patent glazing bars and roof trusses.

HE15: This is a high-strength structural alloy, comparable to mild steel, and used mainly in engineering structures such as bridges and cranes.

The speed of extrusion is slower with stronger alloys. Hence the cost is often greater than in a lower strength material. However, as most architectural mouldings and similar sections are very satisfactory in E1C, it can be regarded as the standard material for extrusions, unless strength is a controlling factor.

Cost

Extruded sections are normally sold by weight and the price per pound depends chiefly on the alloy used (commercially pure aluminium being the cheapest), speed of extrusion and the quantity ordered. The difference in weight between different alloys is negligible.

Finishes

Sections "as extruded" have a uniform smooth matt surface with characteristic longitudinal markings. Such a finish is often acceptable, but a number of other treatments can be specified. Most are suitable for application by the contractor.

Pure aluminium and most of its alloys will take a high polish which can be maintained by regular cleaning, or by a coat of lacquer. Scratch-brushing and sand-blasting are also used extensively. Anodic oxidation (or "anodizing") is an electrical process which deposits a coat of oxide on the surface. The film is hard, durable and of pleasing appearance and it can also be coloured by organic dyes. Anodizing is peculiar to aluminium and a most useful finish for architectural work, but it is not recommended for outdoor work which cannot be regularly cleaned (on the average 2-3 times a year). Given adequate maintenance, it is probably the most satisfactory treatment where appearance is a primary consideration. Painting, except of the strong structural alloys, is rarely necessary for protection but it may sometimes be desired for other reasons. With proper pre-treatment, by chemical or mechanical abrasion, paints adhere well to aluminium and are free from progressive flaking.

* B.S. 1470-1477 : Aluminium and Aluminium Alloys for General Engineering Purposes.

'STONITE' RENDERING has been applied to this school

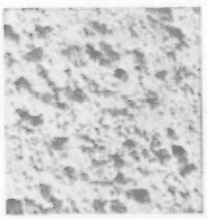
Honicknowle West Park County Infants School. Architects: Louis de Soissons, A.R.A. & Partners, London, Plymouth and Welwyn Garden City. Contractors: A. N. Coles (Contractors) Ltd., Sutton Road, Plymouth.

THESE long runs of wall have been finished with grey-blue "STONITE" and scraped according to the "STONITE" technique to provide an interesting texture, to assist weathering and to prevent cracking. The constructional materials for the wall were a reinforced concrete framework infilled with cavity brickwork, and the mouldings were run in special "STONITE" moulding material.

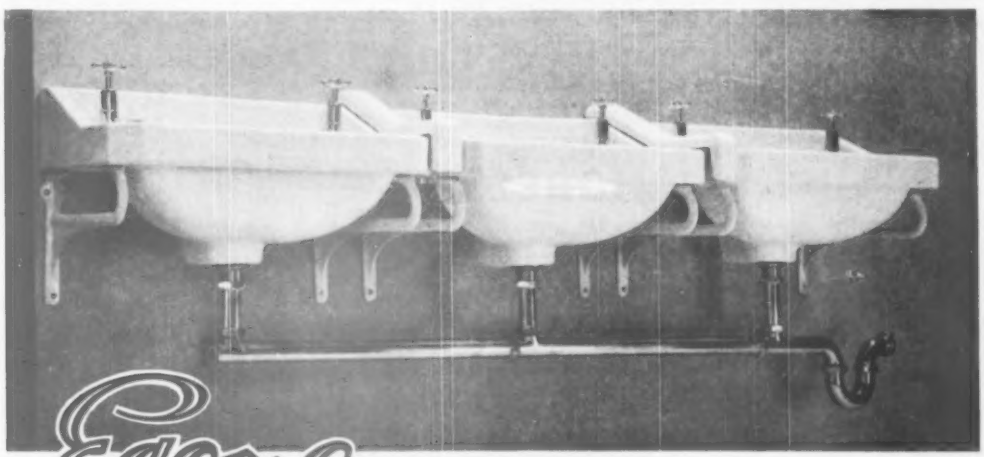
A complete range of "STONITE" materials is available for undercoating, bedding, jointing, pointing, moulding and finishing. Increasingly widely used is the "COLORCAST" Fine Spatter finish which can be applied to almost any kind of surface.

The small illustration shows the actual texture of the walls on this job. Other examples of "STONITE" textures and colours may be seen at the Building Centre, London.

AGENTS: *Devon, Cornwall, West Somerset & West Dorset:* Comers Ltd., 145 Union Street, Plymouth. Plymouth 3561. *Northumberland, Durham, Cumberland & Westmoreland:* J. I. Mather & Sons, 167 Osborne Road, Jesmond, Newcastle. Jesmond 1263. *Greater London, Hampshire, Sussex, Surrey, Kent, Essex, Middlesex, Bedfordshire, Hertford, Bucks & Berks:* New Floor Installations Ltd., 151 Battersea Park Road, London, S.W.8. Macaulay 5888.



CALLOW & KEPPICH LTD. SHIPHAM GORGE, CHEDDAR, SOMERSET TELEPHONE: CHEDDAR 214 C&K



Econa

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OFFICIAL ANNOUNCEMENTS

CITY OF BIRMINGHAM.

PUBLIC WORKS DEPARTMENT.

APPLICATIONS are invited for the following appointments to the permanent staff in the Architectural Section of the Public Works Department.

(a) ARCHITECTURAL ASSISTANTS, Grade A.P.T. VIII £685/760.
(b) ARCHITECTURAL ASSISTANT, Grade A.P.T. VII £635/710.
(c) ARCHITECTURAL ASSISTANTS, Grade A.P.T. V £520/570.

For Architectural posts (a) and (b) the Associateship R.I.B.A. or equivalent qualification must be held, and for post (c) the Intermediate Examination of the R.I.B.A. or equivalent qualification.

Applicants need not have had Local Government experience.

The successful applicant will be required to obtain their own housing accommodation.

The salary scales are in accordance with those laid down under the National Scales of Salaries and the commencing salary will be fixed at an incremental point within the grade according to the qualifications and experience of the candidates appointed.

The appointments may be terminated by one month's notice on either side.

The successful applicants will be required to undergo a medical examination by the Corporation Doctor and the appointments will be subject to the provisions of the Local Government Superannuation Act, 1937.

Applications, stating age and experience, together with the names of two persons to whom reference can be made should be sent to me not later than the 21st October, 1950, and the envelope endorsed "Appointment of Architectural Assistants."

Canvassing either directly or indirectly will disqualify.

HERBERT J. MANZONI,
City Engineer and Surveyor.

The Civic Centre,
Birmingham, 1.

BOROUGH OF WILLESDEN.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

THE Council invite applications for the appointment of an ARCHITECTURAL ASSISTANT on the Permanent Staff of the Borough Engineer and Surveyor's Department.

The salary attaching to the post will be Administrative Professional and Technical Grade VI of the National Whitley Council's Scale for the London Area, namely £595 per annum rising by two annual increments of £20 per annum and one of £25 per annum to £660 per annum, plus London Weighting of £30 per annum.

Candidates must be Associates of the Royal Institute of British Architects or hold an equivalent qualification, and preferably have general knowledge and experience of architectural work in the service of a local authority.

The appointment will be terminable by one month's notice on either side, is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination.

Applications, giving age, experience, etc., accompanied by copies of not more than three testimonials, should be addressed to the undersigned, endorsed "Architectural Assistant," not later than 10 a.m. on Monday, 23rd October, 1950.

It will be necessary for the successful candidate to provide his own housing accommodation as the Council is not in a position to assist.

Canvassing, directly or indirectly, will be deemed a disqualification.

(Signed) R. S. FORSTER, Town Clerk.

Town Hall, Dyne Road,
Kilburn, N.W.6.
15th September, 1950. [4841

BIRKENHEAD EDUCATION COMMITTEE.

NEW BIRKENHEAD TECHNICAL AND COMMERCIAL COLLEGE.
(Estimated Cost £600,000).

REQUIRED CLERK OF WORKS to supervise the erection of the new Birkenhead Technical and Commercial College which will take approximately three years to complete.

The salary will be £660 a year.

Applicants should have had experience as a Clerk of Works and have a thorough knowledge and practical experience of Building Construction, Reinforced Concrete and Steel School Construction, be able to supervise all trades, be capable of setting out all works, and have a thorough knowledge of working to Bills of Quantities and Drawings.

Form of application, which must be returned by the 7th October, 1950, can be obtained by sending a stamped-addressed envelope to the Director of Education, 63 Hamilton Square, Birkenhead.

DONALD P. HEATH, Town Clerk.
Birkenhead. [4842

CITY OF BIRMINGHAM.

PUBLIC WORKS DEPARTMENT.

APPLICATIONS are invited for the following appointment to the permanent staff in the Architectural Section of the Public Works Department:—

SENIOR QUANTITY SURVEYOR, Grade A.P.T. VIII (£685/760).

Applicants must be Associate Members of the Royal Institution of Chartered Surveyors (Quantity Section) and have had considerable experience in a Quantity Surveyor's Office and be competent to "take-off" and prepare Bills of Quantities for all classes of buildings.

Applicants need not have had previous Local Government experience.

The commencing salary will be fixed at an incremental point within the grade according to the qualifications and experience of the candidate appointed.

The appointment may be terminated by one month's notice on either side.

The successful applicant will be required to undergo a medical examination by the Corporation Doctor and the appointment will be subject to the provisions of the Local Government Superannuation Act, 1937.

Applications, stating age and experience together with the names of two persons to whom reference can be made should be sent to me not later than the 21st October, 1950, and the envelope endorsed "Appointment of Senior Quantity Surveyor."

Canvassing either directly or indirectly will disqualify.

HERBERT J. MANZONI,
City Engineer and Surveyor.

The Civic Centre,
Birmingham, 1. [4843

CITY OF BIRMINGHAM EDUCATION COMMITTEE.

COLLEGE OF ART AND CRAFTS, MARGARET STREET, BIRMINGHAM, 3.
Principal: Meredith W. Hawes, A.R.C.A., N.R.D.

A FULL-TIME ASSISTANT TEACHER (male) with high qualifications is required to commence duty as soon as possible in the School of Industrial Design to assist with the training of students taking the Ministry of Education Examinations in Interior Decoration, Light Metalwork and Furniture for the National Diploma in Design.

An ability to give instruction in "Window Display" would be an advantage.

Salary in accordance with the Burnham (Further Education) Scale—men £300-£15-£555, plus £150 per annum special responsibility allowance, with additional graduate and training allowance where applicable. In fixing the commencing salary, allowance will be made for approved industrial and teaching experience. Members of the staff are expected to practise in their own time the crafts they are engaged to teach and this will be borne in mind in arranging the hours of duty of the successful applicant.

Forms of application and particulars may be obtaind from the Principal, College of Art and Crafts, Margaret Street, Birmingham, 3, on receipt of a stamped addressed foolscap envelope and should be returned not later than ten days after the appearance of this advertisement.

E. L. RUSSELL,
Chief Education Officer.
August, 1950. [4836

METROPOLITAN BOROUGH OF LEWISHAM.

APPOINTMENT OF DEPUTY BOROUGH ARCHITECT.

APPLICATIONS are invited from qualified and experienced architects for the appointment of DEPUTY BOROUGH ARCHITECT on the Council's permanent establishment.

The salary scale applicable to the appointment will be £900 per annum raising by annual increments of £50 to £1,060 per annum inclusive.

Preference will be given to persons who have had experience in the design and construction of municipal flats, housing schemes and public buildings.

The appointment will be subject to the rules and regulations of the Council from time to time in force relating to officers; to the National Scheme of Conditions of Service; to the provisions of the Local Government Superannuation Act, 1937; to termination by one month's notice on either side, and to the successful candidate passing satisfactorily a medical examination by the Council's Medical Officer of Health.

The person appointed will be required to devote his whole time to the duties of the office and will not be permitted to engage in private practice.

Forms of application may be obtained from me and should be returned accompanied by copies of not more than three testimonials addressed to me in an envelope endorsed "Deputy Borough Architect" so as to be received not later than Saturday, the 21st October, 1950.

Canvassing either directly or indirectly will be a disqualification.

ALAN MILNER SMITH, Town Clerk.
Lewisham Town Hall,
Catford, S.E.6.
20th September, 1950. [4845

STEVENAGE NEW TOWN.

APPLICATIONS are invited for the post of DEPUTY CHIEF ARCHITECT in the Department of Architecture and Planning. Candidates must be fully qualified architects. The successful applicant will be required to work under the direction of the Chief Architect and Planner, Clifford Holliday, M.Arch., F.R.I.B.A., M.T.P.I, and he will be responsible for the execution of the building programme for the New Town of Stevenage and for the general administration of the Department. Applicants must have had first hand experience in the organisation and execution of large-scale building contracts and wide executive experience in office administration.

The salary offered is on a range of £1,250 to £1,500 p.a., the initial salary to be decided according to experience. The selected candidate will be required to contribute to a Local Government Superannuation Fund or an Assurance Scheme.

The Corporation anticipates that, if so desired, it will be able in the near future to offer the successful candidate the tenancy of a Corporation house.

Canvassing, either directly or indirectly, will disqualify.

Forms of application may obtained from the Chief Administrative Officer, Stevenage Development Corporation, Aston House, near Stevenage, Herts, and should be returned, completed by applicants, not later than 14th October, 1950. [4846

LONDON COUNTY COUNCIL.

ARCHITECT'S DEPARTMENT.

CLERK OF WORKS FOR HOUSING DIVISION.

CLERK OF WORKS (salary £550) required immediately for housing work in the Architect's Department. Candidates should have a wide experience in supervising large building works.

Application forms from Architect to the Council (AR/EK/HCW), County Hall, S.E.1, enclosing stamped addressed foolscap envelope. Canvassing disqualifies. (1206). [4830

AIR MINISTRY have vacancies for DESIGNERS/DRAUGHTSMEN in the Designs Branch of the Works Department for high class work in the following fields. Architecture, Drainage and Water Supply, Land Survey. The work includes designs for London Airport. Salaries are on ranges up to £750. Starting pay according to age and qualifications.—Applications, stating age, qualifications, previous appointments and salary required should be sent to Air Ministry, S.2(h), Cornwall House, London, S.E.1. It is regretted that applications of candidates not called for interview cannot be acknowledged. [4753

KENT COUNTY COUNCIL.

APPLICATIONS are invited for the appointment in the Buildings Department, of an ASSISTANT ARCHITECT at a salary within A.P.T. Grades V(a)-VI (£550-£660).

Applicants, who must be members of the Royal Institute of British Architects, should for preference have completed a full-time course at a recognised school of architecture and be conversant with methods of research. In addition, they should have good experience in the design and supervision of both large and small building schemes, and be capable of taking charge of such schemes.

Previous experience with a local authority is not essential, but experience on school buildings will be an advantage.

The post is superannuable and the successful candidate will be required to pass a medical examination.

Applications on forms obtainable from the County Architect, Springfield, Maidstone, should be delivered to him not later than 14 days after the appearance of this advertisement.

W. L. PLATTS,
Clerk of the County Council.

County Hall, Maidstone.
15th September, 1950. [4837

BOROUGH OF WALTHAMSTOW.

BOROUGH ARCHITECT'S DEPARTMENT.
ASSISTANT ARCHITECT.

APPLICATIONS are invited for an ASSISTANT ARCHITECT (Grades I/V—£420/600) commencing salary according to qualifications and experience.

Applications with names of two persons for references should be received by the undersigned not later than 9th October, 1950.

G. A. BLAKELEY, Town Clerk.

Town Hall, Walthamstow, E.17. [4838

URBAN DISTRICT OF FELTHAM.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

APPLICATIONS are invited for the appointment of ARCHITECTURAL ASSISTANT on the unestablished staff of the Engineer and Surveyor's Department, at a salary in accordance with Grade V(a) of the Administrative, Professional and Technical Division of the National Scales, commencing at £550 per annum, rising by annual increments of £20 to a maximum of £610 per annum, plus "London weighting," or in Grade VI, commencing at £595 per annum, rising by two annual increments of £20 and one of £25 to a maximum of £660 per annum, plus "London weighting." The Grade will depend upon the qualifications and experience of the successful applicant.

Preference will be given to Registered Architects who have had previous experience in the Department of an Engineer and Surveyor to a local authority. The appointment will be subject to (i) the National Scheme of Conditions of Service, (ii) the successful candidate passing a medical examination, and (iii) one month's notice in writing on either side.

Forms of application may be obtained from the undersigned to whom they should be returned, accompanied by copies of two recent testimonials, not later than 6th October, 1950.

Canvassing will disqualify, and applicants must disclose in writing whether, to their knowledge, they are related to any member of, or the holder of any senior office, under the Council.

M. W. COUPE, Clerk of the Council.

Council Offices,
Feltham, Middlesex. [4849

LONDON COUNTY COUNCIL.

APPLICATIONS are invited for positions of ARCHITECTURAL ASSISTANT (salaries up to £580 a year) in the Housing and Valuation Department. Commencing salaries will be determined according to qualifications and experience. Engagement will be subject to the Local Government Superannuation Acts, and successful candidates will be eligible for consideration for appointment to the permanent staff on the occurrence of vacancies.

Successful candidates will be required to assist in the design, layout and preparation of working drawings for housing schemes (cottages and multi-storey flats) and will be employed in the Housing Architect's Division.

Forms of application may be obtained from the Director of Housing, The County Hall, Westminster Bridge, S.E.1 (stamped addressed envelope required and quote reference A.A.1). Canvassing disqualifies. (816) [4101

MINISTRY OF WORKS.

THERE are vacancies in the Chief Architect's Division for ARCHITECTURAL ASSISTANTS and LEADING ARCHITECTURAL ASSISTANTS with recognised training and fair experience. Successful candidates will be employed in London and elsewhere on a wide variety of Public Buildings, including Atomic Energy and other Research Establishments, Telephone Exchanges, and Housing.

Salary: Architectural Assistants £300-£525 per annum. Leading Architectural Assistants £500-£625 per annum. Starting pay will be assessed according to age, qualifications and experience. These rates are for London; a small deduction is made in the Provinces.

Although these are not established posts, some of them have long term possibilities and competitions are held periodically to fill established vacancies.

Apply in writing, stating age, nationality, full details of experience, and locality preferred, to Chief Architect, W.G.10/BC, Ministry of Works, Abell House, London, S.W.1, quoting reference W.G.10/BC. [4671

LONDON COUNTY COUNCIL.

ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for positions of ARCHITECT, Grade III (£550-£700) and TECHNICAL ASSISTANT (up to £580) for work on new housing schools and other public buildings. The positions are superannuable. Candidates for Grade III positions should possess professional qualifications.—Application forms from the Architect (AR/P/S), The County Hall, Westminster Bridge, S.E.1, enclosing stamped addressed foolscap envelope. Canvassing disqualifies. (384). [0097

THE LONDON COUNTY COUNCIL invites applications from ARCHITECTS in private practice for inclusion on a panel to act in a professional capacity on the preparation of schemes for repairs and reconstruction of war damaged buildings and construction of new buildings in the Council's Parks and Open Spaces.—Applications to the Chief Officer of the Parks Department, Old County Hall, Spring Gardens, S.W.1, not later than 27th October, 1950, accompanied by a stamped addressed envelope and brief particulars of qualifications and experience in this work. (1226). [4839

ARCHITECTURAL APPOINTMENTS VACANT

SENIOR Assistants required for Welwyn Garden City Office.—Write, stating age, experience, and salary required, to Louis de Soissons, A.R.A., & Partners, 3 Park Square Mews, N.W.1. [4825

WANTED, responsible assistant architect to run Exeter office November onwards; good prospects.—Write Box 6572, The Architect and Building News. [4848

SITUATIONS VACANT

ARCHITECTURAL Metal Workers require a Designer-Draughtsman of considerable merit. Top salaried position for skilled man.—Apply The Morris Singer Company, Hope House, Gt. Peter Street, Westminster, S.W.1. [0095

ARCHITECTURAL Draughtsman required with an experience of factory design.—Applications to be sent together with full details of experience and salary required to Box A.N. 273, at 191 Gresham House, E.C.2. [4840

SERVICES OFFERED

COMPETENT Architectural Designer, with staff, is now in a position to help out architects, engineers, builders. Complete schemes from sketch plan to working drawings and details prepared.—Museum 5322. [4850

COMMISSIONS for all types drawings undertaken. Perspectives and presentation plans. Charges moderate. Inquiries invited.—Write c/o Mr. Peterson, 27 Chalgrove Walk, Aylesbury, Bucks. [4847

DUPLICATING. Specifications and Bills of Quantities. Speedy service.—Lincoln Commercial School (Proprietor: Robert Withers), Rosemary Lane, Lincoln. [4673

COMPETITION

HEBBURN URBAN DISTRICT COUNCIL.

PROPOSED BAND STAND.

THE above Council is prepared to receive designs for a BAND AND CONCERT PLATFORM and offers £25 as a first prize, £10 for the second prize, and £5 for the third prize.

Particulars may be obtained on application to R. C. Bestow, Engineer and Surveyor, Council Offices, Argyle Street, Hebburn.

Closing date for submission of designs, 30th October, 1950.

T. MEADOWS WRIGHT,
Clerk of the Council.
[4852

CONTRACTS WANTED

PARQUET Floor Surfacers (St. Marylebone) Ltd., Homer Street, W.1. Flooring Specialists.—Phone AMB 6523. [4851

FOR SALE

ALL Mouldings, Plain and Embossed, and Embossed Ornaments. Numerous designs.—Dareve's Moulding Mills Ltd., 60 Pownall Road, Dalston, E.8. [0086

FOR sale, Sommerfeld Wire Netting, second-hand, in good condition, in rolls about 25 yards long and 10ft. wide approx. 3in. hexagonal mesh. Price 50s. per roll at our Sheffield Works. Carriage charges extra.—Thos. W. Ward Ltd., Albion Works, Sheffield. [4809

NISSEN Type Huts, ex-Government stock, reconditioned and supplied ready for erection. All sizes in 6ft. multiples, 36ft. x 16ft., £65 and £54; 24ft. x 16ft., £46 and £38; 72ft. x 16ft., £122 and £97. Delivered U.K. Plasterboard huts and other buildings. Some 24ft. span Nissens.—Write, call or telephone, Universal Supplies (Belvedere) Ltd., Dept. 32, Crabtree Manorway, Belvedere, Kent. Tel. No. Erith 2048. [0067

NO Chimney, no Boiler-house needed with a B. & A. Electrode Boiler. Ideal for hot water and central heating . . . no smoke, no fuel-store, no ash removal. Most compact, can be fitted in any convenient position. Available from 102,000 to 4,080,000 B.Th.U. per hour.—Write for Leaflet 142, Bastian & Allen Ltd., Ferndale Terrace, Harrow, Middlesex. [4760

SLATES. All sizes in asbestos, including Red and Grey Diagonals. Welsh Slates, corrugated and flat asbestos sheets, delivered all parts U.K.—G. Paget Ellis & Co. Ltd., 7 Oxford Street, Leamington Spa. [0102

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Versatility of the ALUMINEX patent glazing system

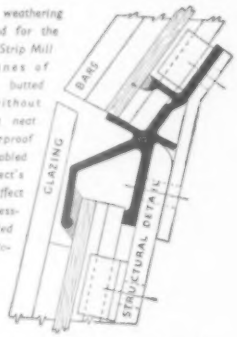
The designers of the Aluminex Patent Glazing system intended to invent something more than a new "dry glazing" technique. They set out to rethink patent glazing from first principles and create a versatile form of glazing of great simplicity that would be an integral part of the design of a building, not a mere appendage.

When the system was designed Architects were invited to take the extruded aluminium alloy glazing bar, the glazing cover strip, the Zed weathering and other fitments and clothe their buildings in walls of glass or ranging series of roof lights, making the appearance and function of Aluminex contribute directly to the overall styling of each building.

The response of Architects to this invitation was immediate. Indeed, the designers' first notions of the possible uses of Aluminex were soon left far behind. New potentialities were discovered by imaginative minds and the process of creative development is still going on.

Architects and Aluminex

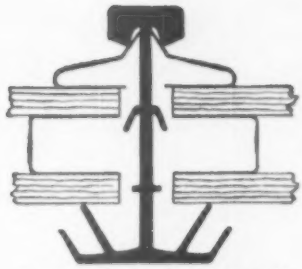
On some occasions the Architect's conception of the role of Aluminex patent glazing in his building constituted a new challenge to the engineers. For instance, when Sir Percy Thomas & Son, F.R.I.B.A., designed the Cold Mill building of the Steel Company of Wales' great plant at Margam Abbey they decided that Aluminex patent glazing provided all the features required for the distinctive sidewall lights of the building. The general character of the building is enhanced by the neat and clean lines of these curved-top "Cascade" windows shown below.



This special weathering detail designed for the Margam Cold Strip Mill enabled panes of glass to be butted together without overlap in a neat and weatherproof joint. It enabled the Architect's "Cascade" effect to be successfully carried out. See photograph below.

But the technical problems which confronted the Aluminex engineers were unexpected. A special virtue of the system had always been considered to be its long, straight lines. Now a curved effect was required. The effect was to be gained by a succession of straight planes but it was inadmissable to break the outline of the "Cascade" by allowing panes to overlap each other in a "lobster back" pattern. Therefore the panes had to be butted together. This raised serious difficulties in maintaining the watertightness of the installation. For this job the

A detail of the Cold Strip Mill of the Steel Company of Wales, at Margam, showing the new "Cascade" windows in Aluminex Patent Glazing. Architect: Sir Percy Thomas & Son, F.R.I.B.A. Engineers: W. S. Atkins & Partners.



This is an Aluminex Patent Glazing bar designed for double glazing. It is of special aluminium alloy extruded to the profile patented by Williams & Williams Ltd. The thermal efficiency of double glazing built with Aluminex is high.

Aluminex engineers designed a new weathering detail. This was in conformity with the normal policy of the Division—to take every necessary action in order to reproduce, by means of Aluminex, the Architect's own design. This new weathering detail took the form shown in the drawing on the left. It is a development of the standard Aluminex Zed weathering extrusion which is one of the notable features of this glazing system.

Large scale glazing

This remarkable versatility of Aluminex applies also to the size of the area to be glazed. The biggest composite plate glass window in the world is the north sidewall window of the Brabazon hangar at Filton (1,052 ft. long by 50 ft. high). Yet it is made of normal Aluminex glazing as used in the smallest of industrial buildings.

There is a further consideration. Aluminex is also designed for double glazing. This has high insulating properties as well as lightness and attractive appearance to recommend it.

Continuous ventilation

Yet another aspect of this versatile patent glazing system is the provision of ventilators hung on continuous hinges. Aluminex sidewall and roof opening lights are constructed in lengths of 200 ft. for manual operation and in 300 ft. lengths when the opening gear is electrically driven.

Therefore it is no exaggeration to say that when an Architect turns to Aluminex patent glazing he has at his service a method of construction capable of versatile applications. It is, moreover, a method susceptible of continuing imaginative development particularly in the field of industrial architecture. The company is actively interested in all such developments and offers the fullest co-operation with all Architects who might wish to discuss the realisation of new ideas and projects.

For further information please communicate with the **Aluminex Division** *of Williams & Williams Limited, Reliance Works, Chester. Telephone: Chester 24624 (10 lines). Telegrams: Reliance, Chester. And at Victoria House, Southampton Row, London, W.C.1. Telephone: HOLborn 9861.*

Architect: Guy Elwes

Entrance hall and cantilevered staircase at Warwick Hall, Wetheral, Cumberland
Built by John Laing and Son Limited
London, Carlisle, Lusaka and Johannesburg

LAING